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ABSTRACT

This book summarizes the issues involved in the design of a children's center. A children's center is defined as an away from home, group child care program for 2-4 year olds. The material is organized into 35 chapters or "patterns." A pattern is a package of design requirements whose solution is focused on a distinct part of the physical environment. This part can be a physical activity space -- e.g., a kitchen, an entry, or the action area of the play yard; it can be a part of a building -- e.g., the lighting system or the flooring materials; or it can be an overall design issue -- e.g., a multirealm environment for mother and child. The patterns should be a takeoff point for the director, the teachers, and the architect to begin thinking about the daily program for a center and the parallel requirements for a physical environment. These patterns can also be considered as part of a continuing dialogue between early childhood educators and architects who take the time to articulate their ideas on educational needs and required physical solutions. The patterns are transitory and temporary, to be modified and changed as the dialogue is vitalized with new ideas and insights. (Author)

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by Fred Linn Osmon

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A report from Educational Facilities Laboratories

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by Fred Linn Osmon

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Contents

Introduction			7
Pattern 1	Early Childhood Education and Day Care: A Plurality of Programs		9
Pattern 2	Locations for a Children's Center		12
Pattern 3	The Organization of a Children's Center		15
Pattern 4	A Multi-Realm Environment for Child and Adult		19
Pattern 5	The Perimeter of a Children's Center: Access vs. Protection		22
Pattern 6	A Transition Place for Parent and Child		27
Pattern 7	Visitors/Administration/ Staff		31
Pattern 8	Entry and Exit from the Group Play Environment		33
Pattern 9	The Group Play Environment		35
Pattern 10	Places to Pause for Awhile		43
Pattern 11	Presentation and Storage of Play Materials		
Pattern 12	The Floor as a Walking Surface/as Furniture		
Pattern 13	A Child's Personal Possessions		
Pattern 14	Children's Toilet Area		
Pattern 15	Children's Sinks		
Pattern 16	Teacher Preparation Area/ Emphasis Food Service		
Pattern 17	Water Play		
Pattern 18	Construction Activities		
Pattern 19	Clay, Paint, Graphics, and Collage		
Pattern 20	Props for Dramatic Play		
Pattern 21	Sand/Soil Plus Water		
Pattern 22	Reading, Listening, Manipulative, and Sensoria Materials		
Pattern 23	Music		

7

l Education 9
A Plurality

Children's 12

n of a 15
er

Environ- 19
and Adult

f a 22
er: Access

ce for 27
d

stration/ 31

from the 33
ironment
En- 35

for Awhile 43

Pattern 11 Presentation and Storage of Play Materials 46

Pattern 12 The Floor as a Walking Surface/as Furniture 50

Pattern 13 A Child's Personal Possessions 53

Pattern 14 Children's Toilet Area 56

Pattern 15 Children's Sinks 58

Pattern 16 Teacher Preparation Area/ Emphasis Food Service 61

Pattern 17 Water Play 63

Pattern 18 Construction Activities 66

Pattern 19 Clay, Paint, Graphics, and Collage 69

Pattern 20 Props for Dramatic Play 72

Pattern 21 Sand/Soil Plus Water 75

Pattern 22 Reading, Listening, Manipulative, and Sensorial Materials 79

Pattern 23 Music 82

Pattern 24 Plants, Animals, and Landscaping 83

Pattern 25 Naps 86

Pattern 26 The Sick Child 90

Pattern 27 Staff Lounge/Parents' Lounge 92

Pattern 28 Observing the Children's Activities 94

Pattern 29 Lighting the Group Play Environment 96

Pattern 30 The Outdoor Play Yard 99

Pattern 31 Action Outdoor Play Area 101

Pattern 32 Passive Outdoor Play Area 105

Pattern 33 Relationship: Indoor Play Environment/Outdoor Play Yard 108

Pattern 34 Covered Outdoor Play 111

Pattern 35 Outdoor Play Surfaces and Weather 113

Appendix: Bibliography 114

Floor Plans 117

Foreword

This book is timely. At this writing, the private sector and federal, state and city governments are planning to spend a great deal of money to provide organized education for the very young. So, Patterns for Designing Children's Centers should be useful to people who plan, or hope to plan, a children's center. The book is not, however, a 'do it yourself manual' that provides blueprints for centers. It goes deeper than that by offering a rationale for all the facets of a children's center, and thus gives readers a chance to design their own centers, or find out what they really need in one.

As long as the American society is plu its ways of caring for the very young will plural. Accordingly, this book provides no standard and universal answers; but it doe make accessible in one place the current knowledge about how the young learn and

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As long as the American society is plural, its ways of caring for the very young will be plural. Accordingly, this book provides no standard and universal answers; but it does make accessible in one place the current knowledge about how the young learn and therefore how adults may constructively respond.

The author, Fred Osmon, practices architecture in California. Since he once worked at EFL, he can speak authoritatively for both disciplines—education and architecture. And it is the confluence of the two which can produce good places for children to be.

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Introduction

The Patterns

This book is a summary of the issues involved in the design of a Children's Center.* It can be used to think about redesigning an existing Center or for guiding the design of a new Center; but in either case, it should not be considered a "how to do it" book. The patterns should be a take-off point for the director, the teachers, and the architect (the design team) to begin thinking about the daily program for a Center and the parallel requirements for a physical environment.

A pattern is a package of design requirements whose solution is focused on a distinct part of the physical environment. This part can be a physical activity space, e.g., a kitchen, an entry, the action area of the play yard; it can be a part of a building, e.g., the lighting system, the flooring materials; or it can be an overall design issue, e.g., a multi-realm environment for mother and child. This pattern concept was developed by Christopher Alexander of the Center for Environmental Structure (Alexander, et al., 1968). I have taken some liberties with his theoretical framework.

Some patterns suggest a variety of concrete solutions to solve a particular problem rather than presenting the abstract geometry (the pattern) that would represent the general solution to this problem. This occurs when I have not been able to state the required geometry. Instead, a cross section of solutions is provided that *imply* a g solution.

The solutions presented are onl as your agreement with the proble If you agree with the problem state then hopefully the solution is state eral enough parameters to allow its by a particular design team. Concre tions are, as mentioned above, sho to help clarify the general solution similar reason, no ideal floor plans in this book, although some examp solutions are shown in the appendi Children's Center will have similar or pattern areas, but each Center w enough unique considerations to re building particular to its needs (but ing containing the general outline s presented in these patterns).

These patterns can also be cons part of a continuing dialogue betwe childhood educators and architects take the time to articulate their ide cational needs and required physica tions. *Patterns for Designing Childr Centers* is my summary of this dial gleaned from the literature, from vi many Centers, and from conversati preschool educators across the Uni The patterns are transitional and te to be modified and changed as the is vitalized with new ideas and insig

Less Than Ideal Situations

The patterns have been written assumption that adequate building and design freedom would be availa fulfill the requirements of these pat

*Pattern No. 1 defines a Children's Center as an away from home, group child care program for children of ages 2, 3 and 4 years.

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The solutions presented are only as valid as your agreement with the problem as stated. If you agree with the problem statement, then hopefully the solution is stated in general enough parameters to allow its adoption by a particular design team. Concrete solutions are, as mentioned above, shown only to help clarify the general solution. For a similar reason, no ideal floor plans are shown in this book, although some examples of solutions are shown in the appendix. Every Children's Center will have similar problems or pattern areas, but each Center will have enough unique considerations to require a building particular to its needs (but a building containing the general outline solutions presented in these patterns).

These patterns can also be considered as part of a continuing dialogue between early childhood educators and architects who take the time to articulate their ideas on educational needs and required physical solutions. *Patterns for Designing Children's Centers* is my summary of this dialogue as gleaned from the literature, from visits to many Centers, and from conversations with preschool educators across the United States. The patterns are transitional and temporary, to be modified and changed as the dialogue is vitalized with new ideas and insights.

Less Than Ideal Situations

The patterns have been written with the assumption that adequate building funds and design freedom would be available to fulfill the requirements of these patterns (although a number of patterns do show alternate solutions based on varying budgets).

Of course, this will not always be the case, and adjustments will need to be made to fit the project limitations. The design team may be faced with a less-than-ideal budget for a new building, or the project may involve remodeling an existing building, or a Center will be put together with factory-built modules. In these situations the "knowledge" contained in the patterns will act as a guideline for maximizing the required modifications. If the project limitations require using an existing building for a Children's Center, then the patterns can be used as a checklist for evaluating those buildings available for leasing. The limitations of these buildings will require the design team to look through the patterns and decide which features they feel cannot be compromised. This should be done concurrently with a review of the local building codes.

If a Center will be housed in a leased, factory-built building, the patterns can be useful in the following ways:

1) Guiding the overall subdivision of the interior space (usually the dimensions of the "box" are set);
2) Suggesting a layout for the mechanical equipment;
3) Guiding the development of the outdoor play yard;
4) Choosing the options available from the manufacturer, i.e., windows set at a correct height for a preschool child, rounded corners on cabinets, configuration of carpet and resilient tile, use of overhangs

for covered outdoor play, child-height doorknobs, sinks and toilets, etc.

Views of Early Childhood Education

As an architect I have tried to avoid the disputes amongst early childhood educators regarding the "right" curriculum for a preschool program, especially a program for working with disadvantaged children. This was possible since there are at present only three distinct group programs in early childhood education (free activity choice, slow pace, and highly structured—Pattern No. 3). This limited number allows each pattern to suggest whenever appropriate a different physical solution for each program type. The free activity choice program approach is dominant in the pattern discussion since it is more oriented toward the use of the physical environment as a teaching tool, whereas the highly structured approach has an orientation toward words and books as the primary educational mode and treats the physical environment as only supportive or neutral.

Folk Models

The children's activities traditionally found in a preschool program could be considered as "folk models," e.g., block building, easel painting, and sand play, which have their origins deep within the foundations of contemporary society. We have not challenged these activities models except

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Folk Models

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We state the educational-psychological value of each activity but do not, and could not, articulate why this activity is typically found in a Children's Center and not in some other activity. Moore and Anderson (1968) make an excellent analysis of the place of educational folk models in all societies as a prelude to challenging our existing reading and writing models. Moore's "talking typewriter" is an example of the replacement of traditional models by a new technological device. Future inventions will surely challenge many of the folk models basic to most preschool programs and these patterns.

Early Childhood Education and Day Care: A Plurality of Programs

There are two primary motivations behind the present high level of interest in child care services. One group is interested in the early years as a means to intellectually stimulate disadvantaged children, and another group is primarily interested in providing child care services for working mothers. The educational point of view was editorialized by Pines (1966, p. 1):

Our severest educational problems could be largely solved if we started early enough. Yet we recklessly ignore an exciting and persuasive body of knowledge about how human beings learn.

This knowledge is just beginning to fit together solidly enough to call for action. Gathered from experimental projects that are scattered about the country, from research laboratories, and from scholars in various universities, it comes at a time when—for the first time in man's history—it makes sound economic sense to invest major efforts in the earliest years of human life.

And the mother's point of view was given similar treatment in *Newsweek* (1967):

But the boom in working mothers has failed to satisfy the growing need for reliable, imaginative and reasonably priced child care. . . . The problem is particularly acute for low-income mothers, often the family's sole bread winner. Long waiting lists are commonplace at public or charity sponsored centers and such facilities are frequently poorly staffed. . . . The day care problems faced by the middle class mother who works are less obvious than the slum mother's plight—but they can be equally serious.

These two aspects of child care are divergent but complementary, and in ity program "child care" and "educat come together to provide a significan ing experience (Pacific, 1970, p. 2).

In an attempt to fulfill this need child care and preschool education, t are many private, state, and federal p grams either in operation or provided pending legislation. To take advantag these programs and to provide maxim child care services, a community will to create a comprehensive master pla coordinated services. The federal gov ment has thought of this need and ha ated the National Regional Communi ordinated Child Care (4C) program (D Care, 1971).

Children's Center Program

The core program for any commu should be the provision of group care children ages 2 or 2½ to 5 years in an from home facility—a Children's Cent are suggesting the Children's Center a core program since the preschool grou represents the largest number of unde children needing care at these centers. facility should house a minimum of 1 15 children for economical efficiency maximum of 100 children for environ quality (see Pattern No. 3, *The Organ of a Children's Center*).

Children attend a Center for a mi of 3 hours per day and a maximum of

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These two aspects of child care are not divergent but complementary, and in a quality program "child care" and "education" come together to provide a significant learning experience (Pacific, 1970, p. 2).

In an attempt to fulfill this need for child care and preschool education, there are many private, state, and federal programs either in operation or provided within pending legislation. To take advantage of these programs and to provide maximum child care services, a community will need to create a comprehensive master plan of coordinated services. The federal government has thought of this need and has created the National Regional Community Coordinated Child Care (4C) program (Day Care, 1971).

Children's Center Program

The core program for any community should be the provision of group care for children ages 2 or 2½ to 5 years in an away from home facility—a Children's Center. We are suggesting the Children's Center as the core program since the preschool group represents the largest number of under-5 children needing care at these centers. This facility should house a minimum of 12 to 15 children for economical efficiency and a maximum of 100 children for environmental quality (see Pattern No. 3, *The Organization of a Children's Center*).

Children attend a Center for a minimum of 3 hours per day and a maximum of 11 hours per day. These programs may be located in the same Center or in separate facilities, and either program can have varying degrees of parental involvement. The all-day program is not a simple extension of the half-day program; it should have a different "pace," more square footage per child, additional activities, and a greater variety of spaces. *The Patterns in this book have as their primary focus a Children's Center as defined above* but they are *partially* applicable to many of the alternate programs discussed below.*

Additional Child Care Programs

The following child care programs should be considered by a community that is attempting to provide comprehensive child care services. Some programs are alternates to group child care for preschool children and others are programs that fulfill special needs not included in the Children's Center program.

Home centers—Child care services are provided in someone's home and can include preschoolers, infants, and elementary school children before and after school hours (extended day care). The Center can be limited to one of these groups or it could be a mix

*Those patterns or parts of patterns reflecting on curricula with a free choice of children's activities also have considerable applicability for the design of an elementary school based on the English primary school model. See discussion on integrating a children's center with an elementary school in Pattern No. 2.

of all three (a Family Center). The number of children is usually limited to fewer than 6 children by local codes (Pacific, 1970).* It has been suggested that these centers could act as satellites to a Children's Center which provided training and central services to a cluster of home centers (Pacific, 1970).

A large number of children are given daily care in home settings that are unlicensed by any state or local agency (Pacific, 1970) and in general provide a wide range of quality. The difficulty of upgrading these centers through licensing has led to the suggestion that advice and materials be made available to these home centers as a temporary solution (Pines, 1966, Chap. 8) (Featherstone, 1970).

Infant Care Centers (birth to 2 or 2½ years)—Centers caring for infants can be housed in a home center, in a group institutional setting, or in a satellite program consisting of a central Infant Center and a cluster of home centers (Pacific, 1970).

Extended Day Care—Care for school-age children of working parents, before and after school hours. These children can be housed in a Children's Center, in a home center or at a local school.

Family Centers—There is a potential in all of these programs for the creation of combined centers that include infant care, preschool care, extended day care, programs for senior citizens, and parental activities. A facility of this type has the usual merits attributed to centralization and overlap and the usual demerits suggeste those preferring smaller urban unit

Early Learning Centers—A scho combines a Children's Center and t elementary grades in a single contin program (age 2½ to 9 years of age). Pattern No. 2 for a further discussi this concept.)

Live-In Programs—The odd wo hours of some mothers, unfavorabl conditions, and the desire on the p some parents to be free from their has led to the consideration of "liv centers for children. Overnight serv Home Centers has been suggested f mothers with odd working hours (1970, p. 77); Cottage Schools have suggested for mothers desiring 24-h during the working week (Oakland p. 60); and an American version of butz has been suggested for extrem of child neglect (Whitbread, 1970).

The above programs have all fo group child care *away from home*, will now consider several programs to the *at-home mother and child.*

Home Training Programs—Hom are made by trained teachers to he mother to work with her child. So grams emphasize the training of m teachers (Weikart and Lambie, 196 emphasize the use of educational t the main learning device (Lane, 19 York Times, 1970), and others are a regular Children's Center progra coby and Zellner, 1970). These pr can be provided during the day fo working mother and child or in th for the working mother. Nonwork mothers may include mothers on who are paid to stay at home with children (Pacific, 1970, p. 13).

Drop-Off Programs—When the mother makes trips into the comm

*The patterns in this book could have included solutions that recognize an *in-home child care* setting for preschool children, since the program ideals would be similar to a regular Children's Center but housed in a radically different setting. But the author was not knowledgeable in this area and has presently initiated a project to develop guidelines for this type of facility.

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Early Learning Centers—A school that combines a Children's Center and the early elementary grades in a single continuous program (age 2½ to 9 years of age). (See Pattern No. 2 for a further discussion of this concept.)

Live-In Programs—The odd working hours of some mothers, unfavorable home conditions, and the desire on the part of some parents to be free from their children has led to the consideration of "live in" centers for children. Overnight service in Home Centers has been suggested for mothers with odd working hours (Pacific, 1970, p. 77); Cottage Schools have been suggested for mothers desiring 24-hour care during the working week (Oakland, 1967, p. 60); and an American version of the kibbutz has been suggested for extreme cases of child neglect (Whitbread, 1970).

The above programs have all focused on group child care *away from home*, and we will now consider several programs oriented to the *at-home mother and child.*

Home Training Programs—Home visits are made by trained teachers to help a mother to work with her child. Some programs emphasize the training of mothers as teachers (Weikart and Lambie, 1967), some emphasize the use of educational toys as the main learning device (Lane, 1968)(New York Times, 1970), and others are part of a regular Children's Center program (Maccoby and Zellner, 1970). These programs can be provided during the day for the nonworking mother and child or in the evening for the working mother. Nonworking mothers may include mothers on welfare who are paid to stay at home with their children (Pacific, 1970, p. 13).

Drop-Off Programs—When the at-home mother makes trips into the community, she would like to have a place where she could "drop off" her child for supervised care. These centers can be located in shopping centers and will be free of charge ["Kiddie Korrals," Co-Op Grocery Chain, San Francisco Area], or they will charge a fee for a one- or two-hour program. They can also be an integral part of a housing complex or a service provided by a public agency. It has been suggested that these programs, although only one or two hours in length, can be extremely valuable to the disadvantaged child if they are focused and well structured (Pines, 1966, p. 275).

Drop-In Programs for Children—An offbeat, but valuable, program is run by Rhoda Kellogg on the ground floor of the Phoebe Hearst Preschool Learning Center in San Francisco. She provides drop-in art activities for small children who wander in off the street from the nearby public housing complex. The only advertisement is by word of mouth from one child to another. A playground could be the location for a similar drop-in program.

Restructuring the Typical Residential Neighborhood

It has been argued by Alexander (1966A) that home care is desirable at this age but many mothers are forced to send their children to Children's Centers to find a sufficient number of playmates. His solution argues for a radical restructuring of suburban and urban housing configurations to provide a density that will allow natural play groups to form (minimum 5 children). This restructuring would also assist play group formation before and after school if mothers were employed and sent their children to a Children's Center.

Restructuring of the Family Unit

Restructuring of the typical isolated family into larger groups of families is an-

other way to encourage natural play groups (Alexander, 1966A). Various experimental communities throughout the Western world are now formed into larger family units and therefore encourage natural play groups. There is no study known by this author evaluating child development in these communities, but Aldous Huxley (1962) has suggested that the results of raising childr in large family groups should be quite ex emplary.

Care for the Sick Child

There have been various suggestions c how to care for the child who gets sick while the mother is at work. Some sugges keeping the mildly convalescing preschoo

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Care for the Sick Child

There have been various suggestions on how to care for the child who gets sick while the mother is at work. Some suggest keeping the mildly convalescing preschool child at his Children's Center in "sick bay" (Pacific, 1970, p. 110), others suggest a program of homemakers caring for the child at his home (Pacific, 1970, p. 111), and others are experimenting with a program that cares for the child in a Community Health Center (Day Care Council, 1970). (See also Pattern No. 26, *The Sick Child.*)

Locations for a Children's Center

The comprehensive master plan of coordinated child services (Pattern No. 1) should be translated into maps that show where Children's Centers and other child care services are located throughout the community. The purpose of this map is to make sure that each family has equal access to services, but in relationship to their needs. The location of new Children's Centers should attempt to give the parents a range of choice:

We believe that no one type of child care service is suitable for all children and all family situations. We believe that variety and freedom of choice are essential components of an effective program of community child care. (Pacific, 1970, p. 2)

All public and private child care groups should be asked to coordinate with the overall location plan when they are considering the location of a new Center.

Centers Located at Places of Employment and at Schools

There are some mothers who would choose to be close to their children while they are working or attending school. A Center located where people work or go to school has the advantage of allowing mothers to visit their children between classes, at coffee breaks or lunch time. Some parents also welcome this nearby location if the home neighborhood is unstable or if they change residence quite often (Morgan, 1970). This location also helps break down the separation between living and working, thus giving the child a chance to become familiar with the areas outside his home. The work/school location will also offer a child the opportunity to be part of a group much less segregated by class and culture than our present residential neighborhoods (Morgan, 1970).*

Of course, the advantages mentioned above will be considered disadvantages by some mothers, and they will choose other options. Another disadvantage of the work/school-based Center is the possibility that this location will necessitate a long commute for the child either by car or by public transportation. This trip might be too fatiguing for some children and should be avoided (Gesell, 1949, p. 264).

The location of a Center where mothers are attending school has several other advantages. The college location has the traditional advantage of allowing the activities of the Center to be observed by the students, who then translate these observations into course work in psychology, education, architecture, etc. Where these Centers have been built, the orientation has been primarily toward this academic function and the number of children served is minute compared with the number of student mothers needing child care services (University of California, Berkeley). A location at a high school allows specific training in

*Gwen Morgan, *Private Approaches to Environmental Solutions.* An excellent discussion of child care services located at a mother's place of work—recommended reading for anyone interested in this type of service.

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Centers Located Near a Child's Home

Children's Centers located near a child's home can serve the working mother with an all-day program and the at-home mother with a 3-hour or half-day program. This location also has the obvious advantage of being within close walking distance, a short auto trip or a short ride in a mini bus provided by the Center.* The arguments for this location come from various trends operating in our society. Each trend has a different intrinsic motivation, but each ends up with a Children's Center near the child's home, although within a radically different housing framework.

Centers in Multistoried Housing—Many architects and planners have advocated the use of multistory housing located in park-like green space as a cure for the increasing density of urban areas. No one has been more articulate or has made more experiments in this direction than the architect Le Corbusier. As an integral part of his vertical communities, he has suggested the inclusion of stores, sports facilities and schools. His multistoried housing complex

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*There are potential zoning conflicts for either a Children's Center located in an industrial environment or one located in a residential area. Many officials consider an industrial area a bad place for kids and many adults object to a noisy school located near their homes.

(Unite d'Habitation) designed for Marseille-Michelet (France) includes a Children's Center on the roof as an integral part of the family's collective life (Le Corbusier, 1968). The children living in that complex can go from their apartment to the roof school by elevator, attended or unattended by their parents. (See Pattern No. 5, *The Perimeter of a Children's Center*, for a further discussion of rooftop Children's Centers.)

Block Schools—Other educators, architects, and planners are advocates of maintaining the typical one- to three-story urban housing found in most cities (Jacobs, 1961). Many of these people are opposed to the multistory housing blocks represented by the project discussed above and argue for a strengthening and renovation of the now decaying but "vitally alive" urban fabric. "Block" or "mini schools" have been suggested as one way to strengthen this renovation effort (Pines, 1966, p. 221) (Carew, 1969) (Goodman, 1968). The federal "Head Start" program has leaned in this direction by encouraging the use of storefront Children's Centers located in the heart of a community. Paul Goodman's arguments are focused on schools for children aged 6 to 11 years, but the author believes they are also an excellent summary of those views expressed by proponents for small Children's Centers (15 to 30 children) located within walking distance of every home:

For ages six to eleven, I propose a system of schools radically decentralized. . . . By 'tiny school' I mean twenty-eight children . . . with four teachers / and each tiny school to be largely administered by its own staff and parents / with considerable say also for the children as in Summerhill. / Such a staff can easily be radically and ethnically mixed. And it is also the case as demonstrated by the First Street School, that in such a small setting, with individual attention paid to the children, it is easy to get racially and e ally mixed classes; there is less middle withdrawal when the parents do not fe that their children will be swamped an tarded. / For setting, the tiny school u occupy two, three, or four rooms in ex school buildings, church basements, se ment houses, otherwise empty during hours, rooms set aside in housing proje store fronts. / There might be one scho every street, but it is also advisable to many in racial and ethnic border areas crease intermixture. (Goodman, 1968)

The Socialized House

The movement toward the provisio universal child care is seen by many pe as a further decline into socialism. Le busier, in his vertical communities, has stressed the provision of a delicate bala between the individual and the collecti and his provision of a Children's Cente seen as a strengthening of the family, a monious function (Le Corbusier, 1968 Maria Montessori took the idea several further, for she welcomed the "socializ of the house." She placed her Casa dei bini in a renovated tenement house an gested the following (Montessori, 1912

We have put the school within the hou *and this is not all. We have placed it wi the house as the* property of the collec *leaving under the eyes of the parents th whole life of the teacher in the accomp ment of her high mission.* (p. 63)

She goes on to suggest that kitchen health care, and social clubs should also a part of this collective house (*ibid.*, pp 70).

In support of this near-home locati for a Children's Center or a school is a known study by Lee (1963). This study accomplished with rural English childre elementary school age, but the author

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The Socialized House

The movement toward the provision of universal child care is seen by many people as a further decline into socialism. Le Corbusier, in his vertical communities, has stressed the provision of a delicate balance between the individual and the collective, and his provision of a Children's Center was seen as a strengthening of the family, a harmonious function (Le Corbusier, 1968). Maria Montessori took the idea several steps further, for she welcomed the "socialization of the house." She placed her Casa dei Bambini in a renovated tenement house and suggested the following (Montessori, 1912):

We have put the school within the house; *and this is not all. We have placed it within the house as the* property of the collectivity, *leaving under the eyes of the parents the whole life of the teacher in the accomplishment of her high mission.* (p. 63)

She goes on to suggest that kitchens, health care, and social clubs should also be a part of this collective house (*ibid.*, pp. 63–70).

In support of this near-home location for a Children's Center or a school is a little known study by Lee (1963). This study was accomplished with rural English children of elementary school age, but the author believes it would apply to preschool children if the results are considered valid.

The content of this study was to discover relationships between the journey to school and the social and emotional adjustment in rural children. The study was concerned with possible differences between a walking journey and a bus journey.

It was found that almost all the kinds of behavior that were considered showed a progressive deterioration with the length of the journey and that usually a bus journey had a worse effect than a walking one. An obvious explanation for the results might be that 'long' journeys make children tired and that tired children are much more poorly adjusted in the classroom. But this hypothesis does not fit the data, as will be seen from a closer examination of the two curves. Although they are plotted against different scales, one of distance and one of time, they have been placed so that they roughly correspond on the time scale. That is, for example, a walk of one mile takes about thirty minutes for a child of that age. It could hardly be argued that sitting in a bus for thirty minutes is more fatiguing than walking for the same time.

What I would suggest, and this hypothesis fits the several other indications which there is not time to detail here, is that a child who lives a long way from school forms two schemata, a home schema, and a school schema, with a semipermeable barrier in between. This barrier is not, of course, a physical one. There are roads connecting his two schemata—but the link is weak (or the barrier is high) because the school bus follows a tortuous and impersonal route, much more important, once the small child has been deposited, the means of crossing this barrier disappears. The bus drives away, leaving in many cases no transport at all, until nearly six hours later.

Walking is very different. It is intimate to the environment and therefore articulates the schema—the barriers are permeable because the child knows he could cross them at any time.

There is some evidence from the Berkeley Public Schools' "busing" program that a short bus ride, especially in a mini bus, does not disrupt the children's "home schema" (Benet, 1970) but with two out of three children being transported by bus to and from school (Featherston, 1969), the Lee study would suggest further research into the effects on children of long bus rides to and from school.

In rural areas where busing is considered a necessity, the only suggestion we might offer would be the provision of a "mobile" Children's Center that would bring the Center *to* the "home schema" for several days per week and would also be utilized to take the children to the city and other educational points.

An interesting hypothesis might be made regarding the Children's Center located at a mother's place of work or school. Do the visits by the mother at her "nearby" location bring the "home schema" with the mother to the Center and offset the child's distance from the home?

Preschool Children Integrated with Elementary School Children

There are also those educators who argue for integration of the
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argue for integration of the under-5 children with over-5 children on the same piece of real estate. The general feeling is that this relationship will provide a continuity of program not now realized by the separation of preschoolers from kindergarten and elementary school children (National Education Association, 1966, p. 11) (Pacific, 1970, p. 89). Others argue that this relationship "would place the emphasis where it belongs—on the educational needs of these children, rather than historically and, unfortunately, on the kind of 'social rescue' basis on which so many nursery schools still operate" (Van Der Eyken, 1968, p. 97).

But this placement of children from ages 2 or 2½ to 9 years on the same site still leaves open the question of how the children will be grouped together in their daily programs. The Berkeley Early Learning Center *proposes* to mix the children in family groups of varying ages (Berkeley, 1970), but in the only working model known to this author the under 5's and over 5's are adjacent to one another but in separate environments (the Eveline Lowe Primary School, London; see floor plan, appendix). This separation does not keep the children from mixing at times, but the major portion of the day is spent in their own area. From a manual describing the Eveline Lowe School (Department of Education and Science, 1967A), we find the rationale for this separation.

Designing for the activities of groups of children under 5 years may require a rather different approach from designing for those over 5. The 3 year old—probably away from home for the first time—needs a secure, familiar base on which all the day's activities will be centered, a room which is in scale with his view of the world and yet encourages him to explore new physical experiences and wider human relationships. (p. 9)

The English have been the foremost proponents for the mixing of children of different ages, so we feel that their decision to separate the under 5's and over 5's is quite significant. *Therefore we feel justified in considering the Children's Center as a separate physical environment although it may be on the same site with older children and be somewhat linked to their area.*

Most urban and suburban elementary schools are located near a child's home and would probably fall within the "home schema" discussed previously. Therefore, both the advantages of nearness of home and continuity of program could be achieved by building Children's Centers adjacent to existing elementary schools. Of course this concentration of children would be opposed by those preferring small, "block" schools. For a further discussion of the size of a Children's Center, see Pattern No. 3, *The Organization of a Children's Center.*

The Organization of a Children's Center

The organization of a Children's Center is determined by three major factors: the approach to early childhood education that will guide the program, general knowledge of how best to organize young children in groups, and the economics of operating a self-sufficient Center.

Approaches to Early Childhood Education

These patterns try wherever possible to point out differing views of early childhood education and their effect upon the particular aspect of the physical environment being discussed. From Weikart (1970A) we get an overall view of existing educational theory:

The dominant view in the early education field is that of the traditional nursery school educators. This position is best described as child centered and permissive: the teacher provides what structure there is through her intuitive grasp of the child's stage of development. The best examples of this method are found in the classes of the master teachers; however, what a master teacher does to achieve her results is a matter of personal expression.

Another point of view is held primarily by researchers new to the early education field. This position is best characterized as oriented toward structured programming, and it is usually based on a specific educational theory. A theoretical position might be derived from Piaget or Guilford, for example, where the primary goals would be cognitive and language development. The typical structured program is a carefully sequenced presentation of teacher planned activities. While some structured programs may u ize traditional nursery school materials activities others will turn directly to th task of teaching reading, writing and a metic without even a nod to the tradit nursery school format.

For the purposes of our discussion have gleaned from Weikart and others distinct approaches to the structure of daily program.

a) Free choice: a program approach en sizing cognitive, social, and emotion velopment and allowing a free choic materials and activities by the child the structure of the curriculum resi the materials and the teacher's indiv contact with each child (but she do teach).
b) Slow pace: a program approach con ing the same triad as (a) above but heavier emphasis on cognitive devel ment—the daily curriculum is cente on activities planned by the teacher generally includes some "free play," pecially in an all-day program.
c) Highly structured: a program appro centered primarily on cognitive or s bol development within a highly str tured daily program. The primary m vation is to get the child ready for t standard elementary school curricul

These three programs differ in the gree to which they structure the child tivities and, as we will see in the follow patterns, this has a direct parallel in th physical environment.

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For the purposes of our discussion, we have gleaned from Weikart and others three distinct approaches to the structure of the daily program.

a) Free choice: a program approach emphasizing cognitive, social, and emotional development and allowing a free choice of materials and activities by the children—the structure of the curriculum resides in the materials and the teacher's individual contact with each child (but she does teach).
b) Slow pace: a program approach containing the same triad as (a) above but with a heavier emphasis on cognitive development—the daily curriculum is centered on activities planned by the teacher but generally includes some "free play," especially in an all-day program.
c) Highly structured: a program approach centered primarily on cognitive or symbol development within a highly structured daily program. The primary motivation is to get the child ready for the standard elementary school curriculum.

These three programs differ in the degree to which they structure the child's activities and, as we will see in the following patterns, this has a direct parallel in the physical environment.

Choosing a program approach implies to a great degree the activities that will be included in that program. The following patterns in this book include the major activities that might be found in a combination of all programs, but no single approach would tend to include all activities. Therefore, a choice of patterns must be made from this book which reflect a particular curriculum approach.*

Young Children in Groups

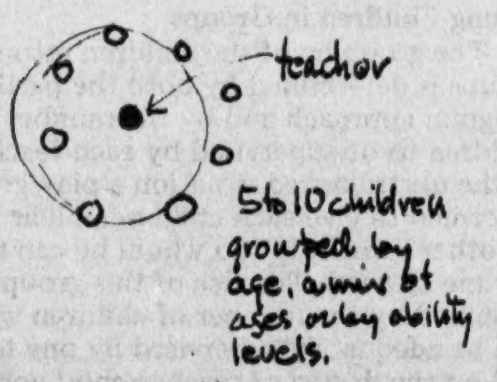
The grouping of the children into play groups is determined by both the particular program approach and by the number of children to be supervised by each teacher. In the unstructured situation a play group is formed to give each child a familiar "mother substitute" to whom he can turn in time of need. The size of this group is determined by the number of children who can be adequately supervised by one teacher and on the degree of teacher/child contact desired in the playroom. A ratio of 1 teacher to 8 or 10 children is typical in a middle-class program, and a ratio of 1 teacher to 5

*A long-range study by Weikart (1970A) compared the three program approaches listed above and produced an unpredicted result. All the programs did very well in stimulating the cognitive growth of the children. The general conclusion was that the teacher's involvement with developing the curriculum is critical and "that children profit intellectually from any curriculum that is based on a wide range of experiences" (p. 25). This leaves the choice of program open to the director and her staff, and in fact it may encourage a wider variety of programs that we have discussed in these patterns.

children is recommended for disadvantaged children who have a minimum amount of adult/child contact at home. The children in a play group can be of similar ages or they can be a family group of varying ages between 2 and 5 years (Diagram No. 1).

In a structured program, the size of the play group is peripherally determined by desired contact and primarily determined by the size of the *class* group. This ratio varies from 1 teacher to 5 to 10 children. A class group can be of similar ages, of mixed ages, or of similar competencies. This bringing together of play or class groups might be called *structuring the extent of the child's world* during his stay at the Center.

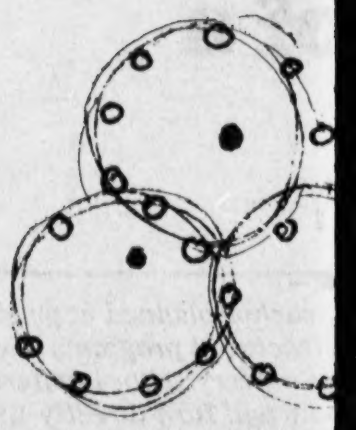
Combining Play or Class Groups—Variations



No. 1

Diagram No. 1: the basic play group or class group—these children may work with other groups throughout the day but *their* teacher is always near by.

Diagram No. 2: One to four play groups (9 to 30 children) brought together in a physical locus point.* We will be calling this locus point the child's group play environment (Pattern No. 9) or his home room. All activities take place in this area or room and in the adjacent outdoor play yard. Additional teachers in the form of aides may be added to this grouping.



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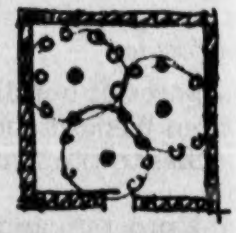

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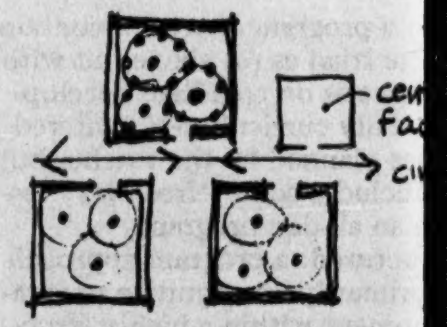
Diagram No. 3: A small Childre consisting of only one group pl ment. Usually located near a ch in a store front, remodeled hou (Pattern No. 2, *Alternate Locat Children's Centers*).



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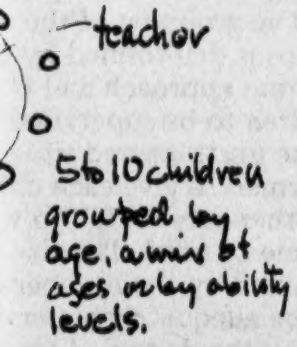

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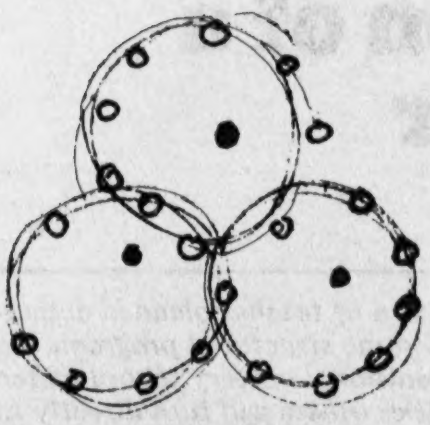

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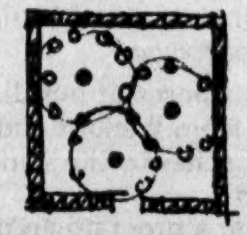
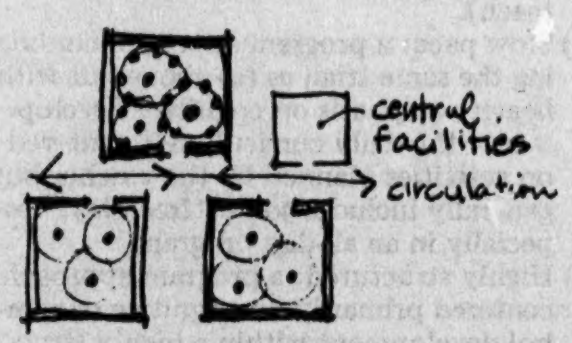


No. 3

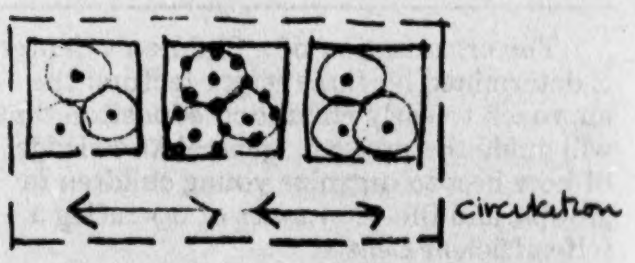
Diagram No. 3: A small Children's Center consisting of only one group play environment. Usually located near a child's home, in a store front, remodeled house, etc. (Pattern No. 2, *Alternate Locations for Children's Centers*).



No. 4

*The British Department of Social Security suggests a Center in which a play group of 9 children has its own room but shares toilet facilities and a part of the day's activities with an adjoining play group (Utzinger, 1970). A more universal solution is a home room housing from 15 to 30 children.

Diagram No. 4: Several mini Centers grouped together on the same site. Each Center has its own distinct character and scale but the clustering allows the centralizing of various functions to minimize duplication.



No. 5

Diagram No. 5: Placing several playgroup environments under the same roof has been used to advantage in many Centers. The Phoebe Hearst Preschool Learning Center (floor plan, appendix) is organized this way to provide a viable economic unit for a private urban Center and yet allow for separate age grouping in each home room. The Jones Child Study Center (floor plan, appendix) has separate and similar home rooms under a single roof, but each play room is operated by a different agency. (See also the Bing Nursery School, appendix.) An all-day Center located on an urban site with separate sleeping quarters on a second level could potentially develop into a town house type of Center as opposed to the one-story solution implied by diagram No. 5.

Widening the Child's World

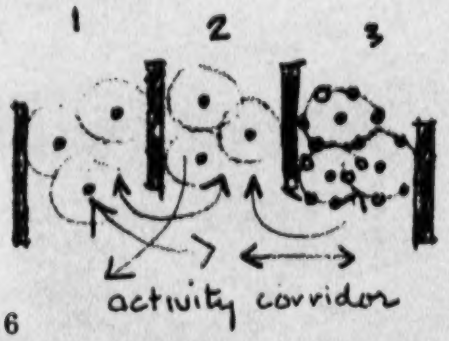
The English consider "critical density" the primary element that should determine the size of the child's world (his group play environment) (Skutch, 1969). The parameters of this density seem to be both protective and expansive. There must be a suggestion of security in the space (besides the teacher) and yet an extension of space to

encourage exploration and wider group participation. There are those who feel that the traditional group play environment of 20 to 30 children has enough security but is not expansive enough to allow a wider range of contacts between children. (From Van Der Eyken, 1968, p. 135):

The evidence from schools such as these (Eveline Lowe Primary School and Malting House School) shows quite clearly that while young children have a need for a place where they can be isolated from the more aggressive, physically larger and chronologically older children around them, they also derive a stimulus and, as their confidence grows, a sense of friendship from older children, some of whom might be their brothers and sisters.

To isolate these children and to treat them as in some way different in kind from those slightly older is not merely to create a totally false barrier around them but also to isolate their teachers, and their intellectual programme.

Solution Variations



No. 6

Diagram No. 6: The Eveline Lowe Primary School mentioned above is an attempt to create this wider world by allowing home rooms to have access to one another through activity corridors (see floor plan, appendix).

The areas for children under 5 years
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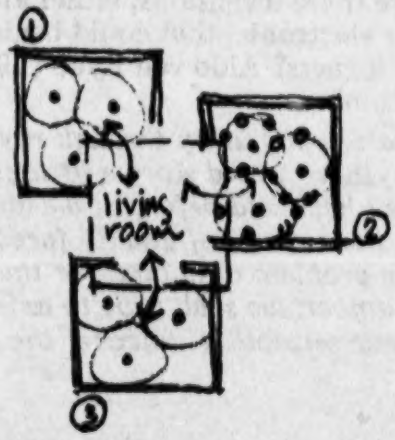

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Diagram No. 7: For examples of thi
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Casady School (appendix). EFL (19
describes the Lamplighter solution:

*Each group of four classrooms is clus
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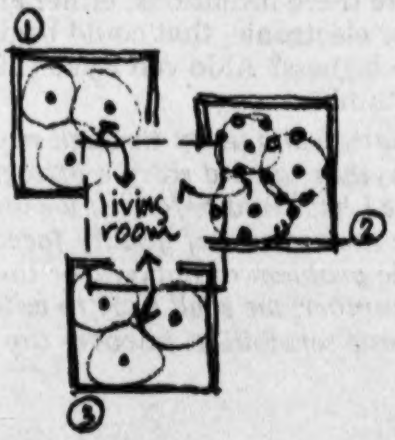
The areas for children under 5 years of age are linked to one another and then linked to the areas for children over 5 years of age.

The architects noted that in an effort to find space for all these activities the distinction between teaching and non-teaching areas was disappearing. (Department of Education and Science, 1967A, p. 9)



No. 7

Diagram No. 7: For examples of this approach, see the Lamplighter School and the Casady School (appendix). EFL (1970A) describes the Lamplighter solution:

Each group of four classrooms is clustered around an open shared space. In the preschool section this area houses such attractions as a fireplace, player piano, library, and a fish tank. Teachers use the shared space as an extension of their classrooms, and there is virtually nothing that goes on in a classroom that could not be shifted to the shared space or vice versa. (p. 18)

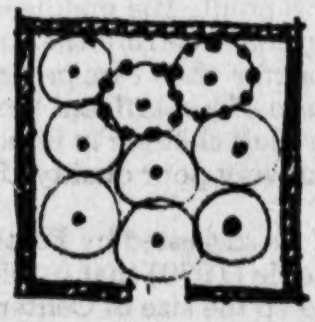


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Diagram No. 8: Another approach for widening the child's world has been to enlarge the home room to house anywhere from 60 to 100 children instead of the traditional 20 to 30 children. This approach requires careful design considerations to give the child a sense of security and careful supervision by the teachers to keep in touch with the children (Pattern No. 9, *The Group Play Environment*). For examples, see the Early Learning Center, Stanford, Connecticut, the Child Minders School, Greenwich, Connecticut, and the West Side Montessori School, New York, N. Y. (appendix).

Economics vs. The Size of the Center

In the above discussion the number of children housed at a Center was approached from a view toward the *ideal size for the child's world.* Pattern No. 2, *Locations for a Children's Center,* also touched on the question of ideal size when it discussed the advantages of a block school or a mini Center. But although there are those arguing for Centers containing only 25 to 30 children, we have not found anyone advocating a Center larger than 100 children. The usual recommendation is to start a new Center if the size exceeds 100 children (Morgan, 1970).

But it is beginning to be realized that good child care services are expensive

(Featherstone, 1970) and that the nonprofit nature of many small Centers has not brought out this point. The middle-class mother may be able to afford the cost of a high quality, private child care program, but a high percentage of less affluent mothers end up placing their children in unlicensed home centers of very poor quality (Featherstone, 1970).*

It is therefore suggested by Featherstone (1970) and Pacific (1970) that subsidies will be needed to keep the size of Centers small or that Centers will need to grow to 200 or more children if they are to provide quality care at a minimum cost.

*A large group of working mothers in California are fortunate since that state is one of the few states providing child care for minimum wage earners. But the demand far exceeds the number of spaces available.

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Therefore, the size of a new Center will need to be approached from both the economic viewpoint and an environmental viewpoint. Theoretically a Center can always be broken down into schools within schools, but as the size of a complex increases it is questionable whether you have a feeling of smallness or just a *large*, inhuman complex of small places.

But are there inventions, either architectural or electronic, that could begin to humanize bigness? Aldo van Eyke (1968A) seems to think so.

Differentiation and unity through rhythm and subrhythm—an old story a little forgotten. As I have said before, if we are to overcome the menace of quality faced with the terrific problem of habitat for the greatest number, we shall have to extend our aesthetic sensibility: uncover the still hidden laws of what I have called Harmony in Motion—the aesthetics of number. Quantity cannot be humanized without a sensitive articulation of number.

Van Eyke's design for a Children's Home in Amsterdam is his answer to this paradoxical problem (1962). He has created a series of separate play areas tied together with an interior street and interior courtyards. Structure, materials, and planning are all utilized to create what he calls a "configuration of intermediary places clearly defined." He feels he has resolved the polarity of the additive isolated building, "loosely knit urban sprawl," and the large centralized complex, "concentrated institutionalism" (See floor plan, appendix.) The Eveline Lowe Primary School discussed previously is another attempt to solve this same problem (appendix).

A Multi-Realm Environment for Child and Adult

A program that encourages independence for the children (free activity choice—Pattern No. 3) will require an environment in which the child and adult have equal but overlapping design consideration.* Maria Montessori (1912) defends this point of view:

We habitually serve children and this is not only an act of servility toward them, but it is dangerous, since it tends to suffocate their useful, spontaneous activity. (p. 97)

And from Landreth and Moise (1949):

A physical environment for a young child may be facilitating or frustrating. An environment in which a young child can independently take care of his physical needs and independently embark on a variety of play activities fosters a sense of adequacy.

This implies that clothes, lockers, drinking fountains, furniture, windows, sinks, toilets, mirrors, tables, storage units, clocks, etc. should all be convenient for a child's use. This convenience of use not only necessitates recognition of a child's dimensional characteristics, but it also implies that all items in the environment recognize the child's level of manual dexterity and muscle capability, i.e., chairs are easily moved, do knobs turned, etc.*

We considered child independence as providing a functional world at his level bu we might also consider it as allowing the child a degree of freedom to extend beyon his realm into the teacher's realm (overlap and therefore to learn a bit of adaptation. Fragile items placed within the child's real can also give valuable lessons in adaptation From Quail (1965):

Not everything in the school environment should be made to adapt to the child. Teac him that he must adapt too, that he must use the adult as a resource person, that there are stepladders he can climb to reach things otherwise too high.

Nancy Rambusch (in conversation, 1970) suggests that some items within the child's realm can be made difficult (not convenient) if they provide interesting work and the child can gain confidence from this work.**

*The highly structured program (Pattern No. 3) is dominated by the teacher and her rules. The need for physical convenience in the child's realm is minimal, since the children will not be encouraged to act independently and in fact will be discouraged from doing so. This may be modified somewhat in the "practice room" (Pattern No. 9) where a child may be given a degree of free choice.

*The dimensions for child-scaled furniture an building elements used in these patterns have beer taken primarily from a study of English school children, 3.0 to 10.0 years of age (Department of Education and Science, 1967A). There does not seem to be a comparable study that includes children from 2.0 to 3.0 years of age. Therefore, a Center that enrolls only children ages 3.0 to 5.0 years can use the exact dimensions of these patterns, but a Center that includes children under age 3 will need some dimensional interpolation to accommodate the child more accurately (except a noted in a particular pattern). Ramsey and Sleeper

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But allowing the children to be independent also implies an environment designed with adequate safety precautions. From Quail (1965):

It is usually difficult for parents to allow a child to be independent because the environment and its dangers make us anxious. Hence to be able to encourage independence in the school, make things safe.

From a design point of view this means taking cognizance of a young child's lack of motor coordination, slow reaction time and general lack of experience, hence judgment. Therefore, all items should be considered as potential safety hazards, i.e., as having the potential to be utilized in ways other than

**The requirement for designing a Children's Center to the child's height and capability level points out the obvious lack of design consideration for the child in the typical home. The home is presently considered a long-term living arrangement, so the child is provided with temporary arrangements like the "potty chair," with the assumption that he will gradually grow up to fit the adult-dimensioned toilet, furniture, stairs, etc. But some developers have recognized the mobility of the average young family and are considering the design of a home oriented to the family with young children. The multi-realm requirements of this pattern could be utilized as a design guideline for a home of this type. Of course, the opposite point of view can be taken—the adult dimensions of the home can be considered complementary to the Center and provide adaptation as mentioned above (Kellogg, 1949, p. 312).

their primary function. Examples would be shatterproof glass within a child's reach, rounded corners on furniture, shockproof electrical outlets, slip-proof rugs and floors, controlled hot water temperature, etc.

Another way to make the child's realm safe is to place potentially dangerous items not in use within the teacher's realm—out of a child's reach (maximum reach, age 4.8 to 5.0 years—49"—Department of Education and Science, 1967A, p. 53). Examples: light switches, doorknobs to unsafe areas, sharp scissors, medical supplies, etc.

A Children's Center should be oriented toward the child, but the adults must also be given functional and aesthetic consideration. A convenient working environment will give the teachers more time to spend with the children and help eliminate frustrations that could be passed on to the children, after struggling with some awkward physical arrangement.

From Landreth & Moise (1949):

Reduction of labor—reduction to a minimum of the manual labor involved in lifting and moving equipment. Even under the best conditions nursery school work is physically demanding because of the amount of bending necessarily involved when adults work in a physical environment adapted for young children. (p. 83)

In general, this will mean providing equipment at two different levels if the budget allows, i.e., sinks, storage units, windows, doorknobs, etc. Another approach is to bring the child into the adult realm for combined teacher/child activity, i.e., a child washing facility, Pattern No. 15, Children's Sinks. A maximum provision for child independence will also aid the teachers by minimizing the amount of assistance needed by the children.

The adult realm and the child realm come together in the total spatial configuration of the Children's Center, and this coming together produces an overlapping realm that has its own unique considerations (Diagram No. 1).

No. 1

For the program that concentrates on highly structured learning sessions the role of this overlap is quite *insignificant* from a design point of view, since the teacher controls the overlap by "teaching" (see previous note). But for any program with periods of free play, supervision is the primary role of the overlapping realm; supervision that acts to make the child's realm more safe and supervision which provides guidance to the children's activities.

Supervision (is) the teacher's ability to see what is going on in the entire unit by moving only a few feet. All the children's activities have potential educational content, hence all profit from teacher supervision and guidance. (Landreth and Moise, 1949, p. 83)

But this supervisory guidance should be as inconspicuous as possible to allow the child-centered flavor that is basic to this pattern. In fact, there is some evidence to show that a minimum amount of adult presence will produce less conflict among playing children (Millar, 1968).

In the relatively strange laboratory setting at least, normal nursery-school children

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In the relatively strange laboratory setting at least, normal nursery-school children play less aggressively where there is no supporting adult present. Where there is a consistently friendly, encouraging and reassuring adult, the overall score of aggressive acts increases from session to session and play becomes less stereotyped. (p. 150)

Some Centers have approached this problem by having only the required number of teachers and by avoiding the use of volunteers (Kellogg, 1949). This is in contrast to other Centers where volunteers are utilized to give the children more adult contact. But in general the problem can be stated—how can the physical environment assist the teacher in providing supervision (assistance and guidance) and yet minimize her presence when she is not directly involved with a child? The following are various hypotheses about the physical environment that suggest solutions to this subtle problem.

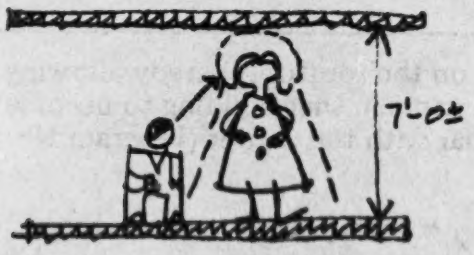
The Height of the Group Play Environment

An initial reaction to "child centeredness" might be to create a low ceilinged space for the group play environment, with just enough ceiling height to allow the teachers to move around. The director of a nursery school designed by Le Corbusier (1968) comments:

The warmth and intimacy of the school are partly created by the lowness of the ceilings (just over 7 ft. 2.26 in.). (p. 60)

A low ceiling of this height is obviously "intimate" to an adult but our main concern is the child's perception of his environment. Without any data from the children we would premise that an adult placed within such a space would appear excessively large to a child due to the adult's nearness to the ceiling and would result in a feeling of dominance (of size) by the teachers. This exaggeration of size seems to be supported by Millar (1968, p. 127) who re-

ports that young children overestimate the size of whatever object they are looking at and that they are affected more by what immediately surrounds an object than adults are (Diagram No. 2).



No. 2

From this premise we suggest that intimacy is therefore not gained from a low ceilinged space containing both teachers and children. True intimacy for the child is more likely achieved by small low-ceilinged spaces (4'–0" ±) which exclude the teacher completely (Pattern No. 10, *Places to Pause for Awhile*).

It follows then that the ceiling should be at a height where it is not *definitely* perceived by the children. Joseph Esherick, in his design of the H. Jones Child Study Center in Berkeley, California, took a premise similar to ours and placed the ceiling height at 11'–0". The director, Mrs. T. Harms, feels that this height does aid in minimizing the teacher's presence, especially since low-ceilinged, child-only spaces are also provided. Without any other experimental evidence for comparison, we will recommend a height similar to the successful Jones Center (10'–0" to 11'–0") (Diagram No. 3).

No. 3

Whether the ceiling can be *too* high may not be critical except in terms of economics (not too high) or acoustics (not too low).

Given a ceiling height that does not emphasize the teacher's presence, we can now move to the horizontal plane. Here a similar effect would seem to occur when the teacher and children find themselves in a small room (the teacher would get bigger). Therefore, we would premise that small spaces defined by walls (7'–0" ±) should only be utilized

No. 4

No. 3

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No. 4

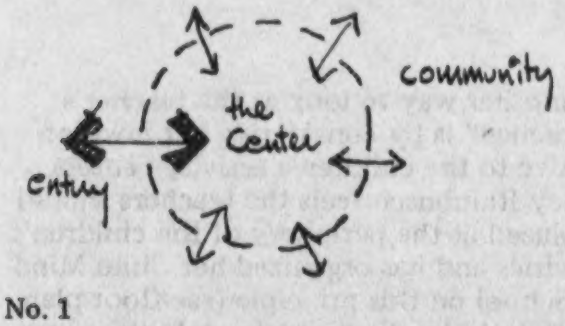
No. 5

Another way to look at the teacher's "presence" is by considering her position relative to the children's activity centers. Nancy Rambusch feels the teachers should be placed at the periphery of the children's activities and has organized her Child Minders School on this principle (see floor plan, appendix). Another way to state this issue would be in terms of spatial axis. The teacher circulation paths should be kept as much as possible on minor axis and the children's activities on the major axis of the group play environment.

The Perimeter of a Childr
Center: Access vs. Protect

The Perimeter as the Entry and Exit Point for Children, Adults, and Goods

The Center should "welcome" the approaching child and adult. This is especially true on the first few days a child comes to the Center (Pattern No. 6) or when the adult makes an initial visit to the Center (Pattern No. 7). This welcome is characterized by "openness"; being able to see what is happening in the Center while approaching (Diagram No. 1).



No. 1

The Center will also be serviced periodically with the delivery of goods and the removal of refuse. The outdoor area will receive new sand, tanbark, and equipment.

The Perimeter as the Interface Between the Children's Center and the Surrounding Community

The Center should not be simply a service function within a geographical area but a dynamic part of a local community. To encourage its use, it should be visually and functionally accessible to the public circulation paths in the vicinity of the Center (Alexander, *et al.*, 1969, p. 93). Pattern No. 2 suggests that a Center could be located in a residential, work, or academic c
Therefore this path may be a city
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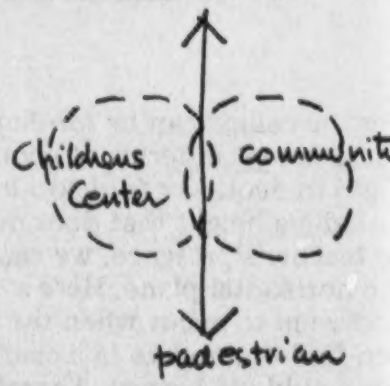

No. 2

a major path through an industrial
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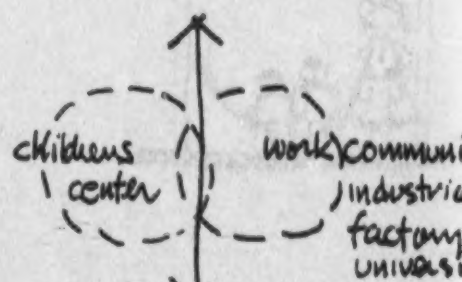
Nos. 2 & 3)



No. 3

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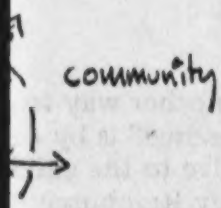

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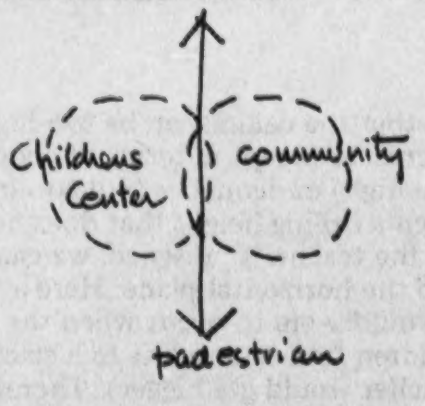
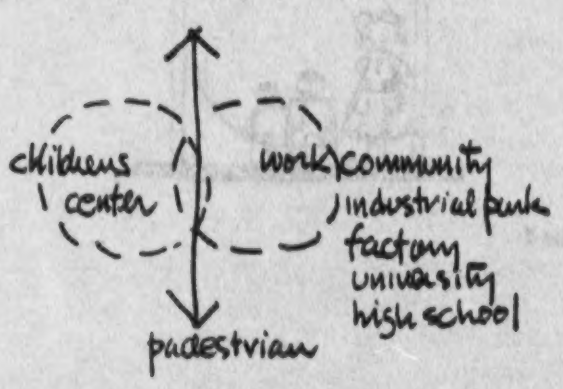


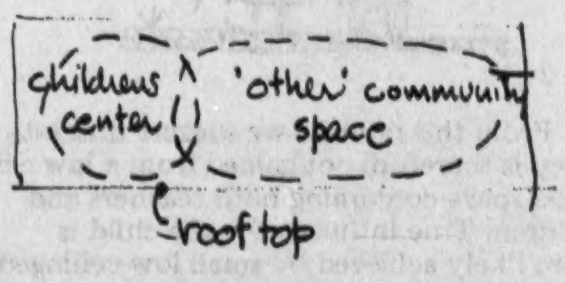
No. 2

a major path through an industrial park, a corridor on the ground floor of a factory, the main plaza of a university, etc. (Diagram Nos. 2 & 3)



No. 3

For a Center located on the rooftop of a multistoried housing block, the problem should be stated differently. Here the problem is to provide other community functions on the rooftop, thereby allowing the tenants in that building to become familiar with the Center (Diagram No. 4).



No. 4

Signs and symbols are devices commonly used within the commercial sphere for selling merchandise to the community. These devices can be used by the Center but we are suggesting that primary communication take place through viewing the *internal* activities of the Center.

Dolores Page comments on her storefront Center:

Sometimes the children just sit and look out at the street. At other times, however, they listen to stories, or talk to their teachers or each other, and the people on the street look in on them and begin to understand what an early education center can do for their children. (EFL, 1970A, p. 34)

The storefront approach seems more appropriate for the pedestrian, and signs perpendicular to the street more appropriate to the motorist (Brown and Venturi, 1968).

The Perimeter as the Bounding Element that Keeps Children Within the Center

Any point which serves as an entry/exit point can also be a point of departure for an exploring child. Therefore the perimeter must provide protection equal to the potential dangers outside the perimeter boundaries. This is especially true for outdoor play areas (Foster and Mattson, 1948, p. 195).

The Perimeter as a Filter for Acts of Vandalism Directed at the Center

This author's experience has shown that Children's centers can be classified as schools in terms of the high degree of vandalism they receive (Greenburg, 1969, p. 1). This is especially true for those Centers located in disadvantaged areas of the urban environment, although vandalism is also high in many suburban areas (*ibid*., p. 3, p. 16). Data indicates that there is a high degree of correlation between the way a child views a school and the acts of vandalism against it (*ibid*., p. 18). Therefore, the architect's role is to find that thin line between the openness and welcome mentioned earlier (access) and adequate vandalism protection.

This requires a design compromise that can lean toward protection or toward openness. One approach would provide only minimum access to the community and users during operating hours and then "wall off" the Center at other times for maximum vandalism protection. A contrary approach would attempt in all ways to open the Center to the community during and after hours and thereby gain vandalism protection through a lack of confrontation. Our pattern leans toward this latter approach since we feel the fortress approach is self-defeating. From Greenburg (1969):

Where vandalism has been a severe problem, in some instances the physical measures implemented have had a negative effect—i. greater challenge is offered to the determined vandal. Perhaps the most subtle, ative effect is the general appearance of armed, defensive fortress, designed to k the youngsters "in line" during school hours and off the premises after school hours. (p. 33)

But just how open can you make a ter? Pattern No. 6, *A Transition Place f Parent and Child*, and this Pattern sugge views into either the indoor or outdoor play areas. Pattern No. 7 suggests a view the reception area. Pattern No. 9 sugges views to the outside world for the child and Pattern No. 30 explores the potenti for after-hours use of the outdoor play yard. On the closure side various indoor outdoor activities need privacy to allow concentration, and the outdoor play are needs protection from a loss of children loose play equipment. Large glass areas opening up the Center are expensive as compared with standard walls; glass is n good thermal barrier; and excessive amo of glass tend to stretch the limits of clie acceptability.

Therefore the interior volumes of a ter should tend toward typical window openings or small amounts of glass curta wall. An exception is the interface betw the interior and exterior play areas, Patt No. 33. This glass wall is protected by th intermediate space of the play yard (privacy) but may need additional protectio the play yard is open to after-hour use.

But even the windows can impinge upon the privacy of the children and tea ers and must be further considered to ins that curtaining devices do not go up soo after the building is in operation. The wi dows must allow the passerby the chanc look in casually or to pause and watch th

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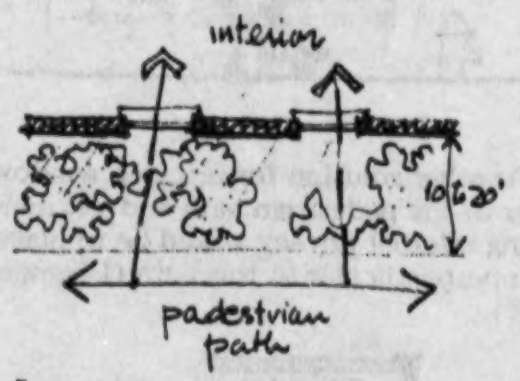
But just how open can you make a Center? Pattern No. 6, *A Transition Place for Parent and Child*, and this Pattern suggest views into either the indoor or outdoor play areas. Pattern No. 7 suggests a view to the reception area. Pattern No. 9 suggests views to the outside world for the children, and Pattern No. 30 explores the potential for after-hours use of the outdoor play yard. On the closure side various indoor and outdoor activities need privacy to allow concentration, and the outdoor play area needs protection from a loss of children and loose play equipment. Large glass areas for opening up the Center are expensive as compared with standard walls; glass is not a good thermal barrier; and excessive amounts of glass tend to stretch the limits of client acceptability.

Therefore the interior volumes of a Center should tend toward typical window openings or small amounts of glass curtain wall. An exception is the interface between the interior and exterior play areas, Pattern No. 33. This glass wall is protected by the intermediate space of the play yard (privacy) but may need additional protection if the play yard is open to after-hour use.

But even the windows can impinge upon the privacy of the children and teachers and must be further considered to insure that curtaining devices do not go up soon after the building is in operation. The windows must allow the passerby the chance to look in casually or to pause and watch the playroom activity. At the same time, the interior occupants must not feel imposed upon by this viewing. From observations, it appears that an open but not traversable space between the viewing path and the windows will provide a solution if the space is about 10 to 20 feet in depth. At this distance the pedestrian can view in but the occupants will not feel uncomfortable (Diagram No. 5).



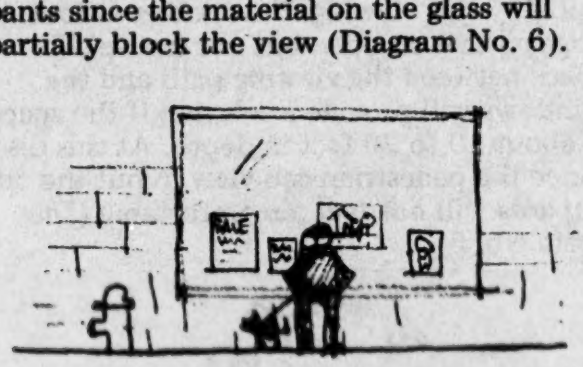
No. 5

When windows get closer to the pathway, the occupants begin to get more privacy since the pedestrian feels he is imposing by viewing so closely the children's activity. Reflections that hinder vision also begin to appear on the glass as the distance closes. The typical main street display window does not have this problem since the display area is shallow, well lit, and does not look into the store's interior.

But as we mentioned in the introduction, an understanding of the problem is more important that the few solutions we can hope to premise. For example, given the above criteria, what can be done with an existing building having large storefront windows on the sidewalk?

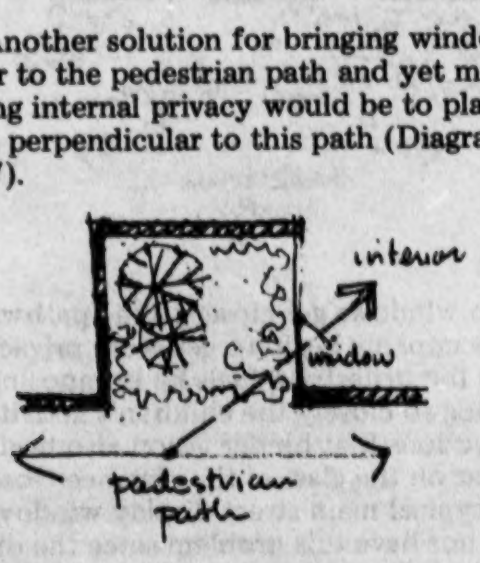
If the windows are partially covered with children's drawings, community information, etc., this will give the pedestrian an

excuse to stop, and he can look into the Center. But he will not impose on the occupants since the material on the glass will partially block the view (Diagram No. 6).



No. 6

Another solution for bringing windows closer to the pedestrian path and yet maintaining internal privacy would be to place them perpendicular to this path (Diagram No. 7).



No. 7

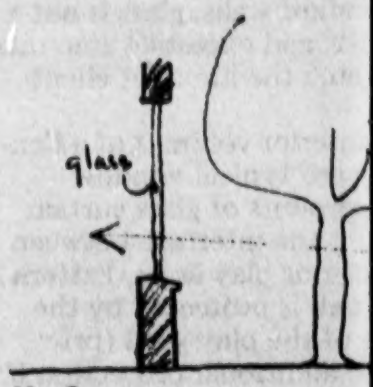
Views into the Center will also allow surveillance by the community and the police if a few lights are left on within the Center after hours.

As suggested above, one of the best ways to reduce glass breakage from vandalism is to reduce the amount of window area, but additional devices may still be needed for the remaining windows. It appears that glass gets broken more "in passing," when boys are casually walking by, than through deliberate attempts to smash some windows

and run. And windows on ground side of schools get than windows on the publ

Unbreakable glass is a tion, but at present it is to Plexiglass is all right, but i breakable in large panes. H on the windows (1½ to 2" acceptable solution for ex but these screens block vie Center and should not be dows facing onto a public

The best solution is to difficult to hit and elimina places from which a vanda dows placed oblique to an gram No. 7) fulfills one pa ment by making the glass a casual throw. A line of t windows will also protect throw made from a distan viewing under the trees (D



No. 8

(Evergreens will give year tion.) Public surveillance around the Center will he vandal by making his act

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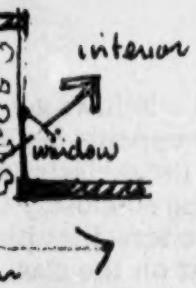

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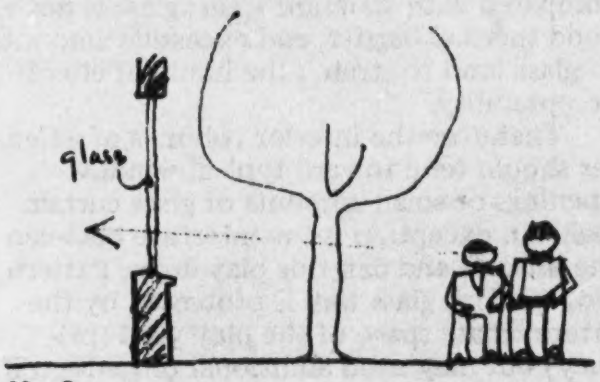
Unbreakable glass is a potential solution, but at present it is too expensive; Plexiglass is all right, but it scratches and is breakable in large panes. Heavy screen mesh on the windows (1½ to 2" openings) is an acceptable solution for existing buildings, but these screens block viewing into the Center and should not be placed on windows facing onto a public circulation path.

The best solution is to make the glass difficult to hit and eliminate protected places from which a vandal can throw. Windows placed oblique to any pathways (Diagram No. 7) fulfills one part of this requirement by making the glass difficult to hit in a casual throw. A line of trees in front of windows will also protect against a casual throw made from a distance and yet allow viewing under the trees (Diagram No. 8).



No. 8

(Evergreens will give year-round protection.) Public surveillance of the pathways around the Center will help discourage a vandal by making his act "seen."

The exterior play areas can allow a greater visual interchange with the community since the children's outdoor activities need less privacy due to their active nature, and the community can also use the play yard after hours since the equipment is sturdy and contains a minimum of loose materials.

But the outdoor play areas do need a minimum amount of containment to keep the children within the play area. In an urban area with potential dangers outside the perimeter, there should be a 4'–0" continuous barrier without toe holds for climbing—average height, age 5 years, is 3'–8" (Ramsey and Sleeper, 5th ed.). In a rural or suburban area with no potential dangers outside the play yard perimeter, this barrier can be large stones, shrubbery, etc.

An entry point in the barrier should be provided to allow the play yard to be utilized by the children and mothers after hours. If the barrier is a fence, then a gate should be provided that is self-locking and sturdy enough to be used as a piece of swinging play equipment.

Providing a minimum barrier and access to the play yard will hopefully minimize damage from vandals by eliminating the challenge to get over the fence. A similar design was used by the author for a play yard located in an area with a history of vandalism. The damage to the Center and play yard has been minimal. Wood was used in the fence and this was seen by the community as a "friendly element" in comparison with the usual chain link fence.

The following quote (Allen, 1968) describes the "high fence" approach used for Notting Hill Playground in London. We feel our arguments have discounted the major portion of their rationale (although not too convincingly) except the one regarding the screening of large "junk" material. This material may require a visual barrier.

The site had a bad history of vandalism and dumping. The fencing was therefore carried

out before the playground work and quite independently of the playground plan. A 12-foot fence was provided, consisting of 8 feet of concrete planks and 4 feet of chain link. This has proved to be a surprisingly good solution. It is high enough to keep balls inside, and it is solid enough to make the playground a world of its own. This is important since the inevitable untidiness of the adventure area does not contribute to the beauty of the neighborhood. Besides, the children do not want to be watched by people outside. It is impractical to have no views into the site at all; hesitant children like to look in as they pass before deciding to come and play. Also it is necessary to be able to keep an eye on the playground when it is closed. For these reasons two small gaps were made and filled with vertical railings . . . (pp. 68–69)

Also:

Perhaps playgrounds are often too open. Notting Hill has an excellent pavilion with an extremely good relation to the out-of-doors and this is a very rare thing indeed. (p. 69)

Another opening is needed to allow the delivery of sand, dirt, tanbark, and equipment to the play yard. Delivery of this material by wheelbarrow or lifting it over the fence greatly increases its cost. An opening 10′–0″ wide would allow entry of the average dump truck. A hard-surfaced area should extend from this opening into the play yard to allow maximum delivery to point of use.

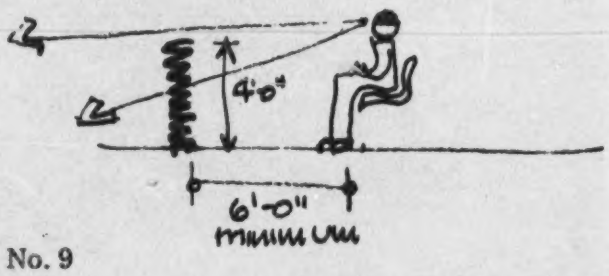
The low fence or barrier has a secondary use for the members of the community. Adults and teenagers like a place where they can gather to chat and take in the sun and at the same time casually watch some ongoing activity, especially little children. This was the experience at the Lennox Street playground in Boston, Massachusetts (Moore, 1966):

From the time it was put up, the fence had some significant influences over social behavior that were unpredicted. It was the locus of a good deal of hanging-out, particularly by adults and older teenagers (pp. 122–123)

This hanging-out was reinforced by being located along a public sidewalk (*ibid.*, p. 123).

There is an opposing point of view expressed by some early childhood educators that this hanging around the play yard fence by adults and teenagers is disruptive to the play yard activities (see Allen quote above). It is obvious from discussions with these teachers that they have a very protective relationship to their children and consider the general community as "undesirables." This pattern, without any strong evidence to support it, disagrees with this point of view and takes a more positive view toward the urban environment. The Moore study quoted above suggests that the overlap may not be one of "watching" and hence disruptive, but rather one of positive ambience provided by two groups functioning next to one another but in different activities (Moore, 1966, p. 123).

To encourage this overlap without disruption, the watchers should be provided with benches a minimum of 6′–0″ from the fence or other barrier (Diagram No. 9).



No. 9

Street playground in Boston, Massachusetts (Moore, 1966):

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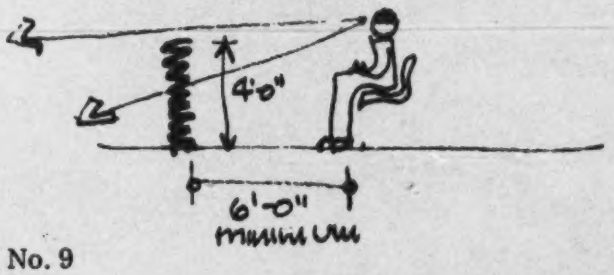
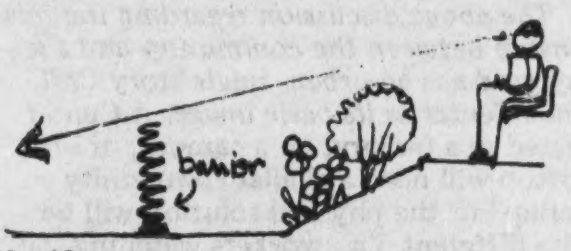


No. 9

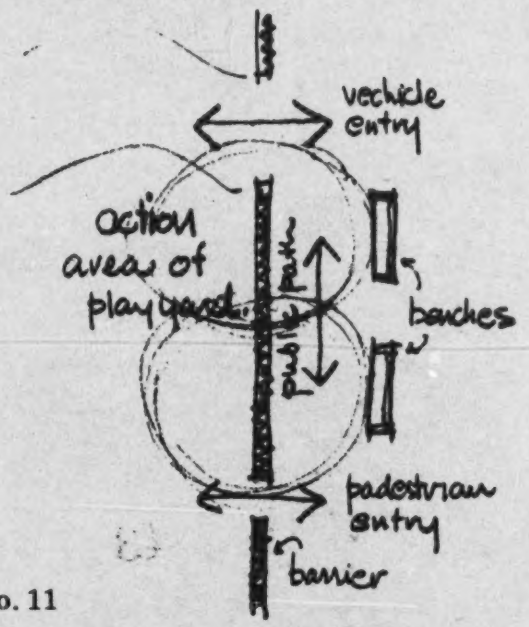
The barrier at this point should have a see-through quality or a see-over quality for a person sitting on a bench (Diagram No. 10).



No. 10

These benches could also be used by mothers watching their children if the playground will be used as a "tot lot" after hours, although they may want a closer watching position inside the yard. For two similar patterns, see Alexander *et al.*, (1968, p. 173) and Alexander *et al.* (1969, p. 94).

The action area of the play yard should be adjacent to the viewing area and the pedestrian and vehicle entry points. This will provide maximum action for the watchers and minimum disruption to the children since they are engaged in vigorous activities (Diagram No. 11).

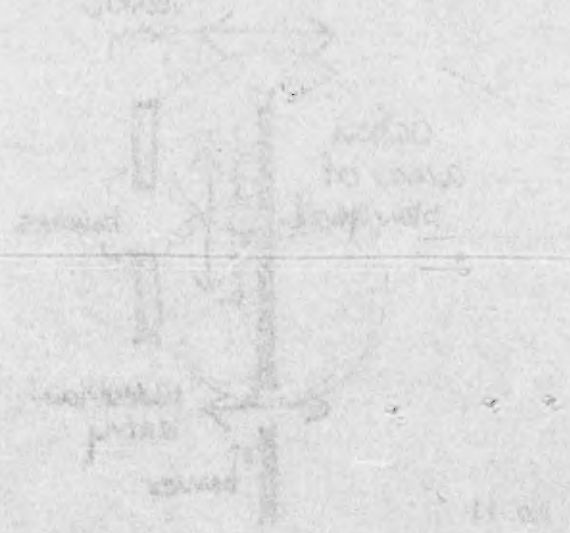


No. 11

The more passive play activities which need privacy (Pattern No. 32) should be placed away from this public viewing area.

The above discussion regarding the relationship between the community and the play yard has an urban, single-story Children's Center as its basic image. A Center located in a factory, on a campus, or on a rooftop will need a similar community overlap but the physical solution will be quite different, i.e., workers watching the children at coffee break, students viewing kids on the way to class, tenants eating lunch at the rooftop lunch area and w ing the children, sand delivered by ele vator.

A variation on "community obser of the children" was developed by the a and Sanford Hirshen for Children's Ce located in Migrant Farm Labor Camps California. Camp laundries were place where the user could see into the Cent while doing her wash. This solution w response to many migrant mothers wh reluctant to leave their children at thi familiar place (Osmon, 1966). This ki



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A variation on "community observation of the children" was developed by the author and Sanford Hirshen for Children's Centers located in Migrant Farm Labor Camps in California. Camp laundries were placed where the user could see into the Center while doing her wash. This solution was in response to many migrant mothers who were reluctant to leave their children at this unfamiliar place (Osmon, 1966). This kind of placement could be utilized in any community with a similar reluctance on the part of the mothers to use a Center, e.g., near a shopping center.

The adjacency of other community activities with a Children's Center could also be utilized to gain other positive overlaps, e.g., the bench-sitting area might be expanded into a mini park.

To deter vandals, night lighting should be available at the perimeter of the Center, and expensive, loose outdoor play equipment provided with secure storage.

A Transition Place for Parent and Child

The parent and child when entering the Children's Center traverse a path between the public domain and the place where the child meets or leaves his play group teacher. This public domain may be a city street, a parking lot, an elevator lobby, a public pathway, or a factory corridor. This entry/exit experience includes the first few times the child comes to the Center and the daily drop-off and pick-up of the child after he becomes a regular attending student. The entry of the mother inquiring about the services of the Center and the entry of visitors is discussed in Pattern No. 7.—

Initial introduction—Many children are quite apprehensive when attending a Children's Center for the first few times. The child is not sure what this new place is going to be and he is reluctant to leave his mother (Gesell, 1949, p. 207). Some Centers send a teacher to the child's home to welcome him before his initial visit (Leeper, *et al.*, 1968, p. 298), and other Centers require a visit by the parents and child before the first day's attendance.

Home visits are a time-consuming and expensive activity so they are seldom a part of the program. Even with a home visit, there can be a reluctance to enter on the first few days. The physical design cannot eliminate this reluctance, but it can create circumstances to encourage the child to see that "this is not such a bad place to be after all" (Alexander, *et al.*, 1968, p. 183).

We are suggesting three criteria to aid the mother and child in developi feeling for the Center as they are ing.

1. There should be enough time over the Center while approac building entry and court, incl to pause and reassure a reluct The amount of time is hard to but we can at least establish w acceptable solution would be: without windows and an entry 6′–0″ from the automobile dr point.
2. During this viewing, the physi ronment should communicate and child that the Center is a to be. This communication ca through views of children play doors or outdoors or by provi lightful" transition experience tern No. 5 for further discussi into the Center).
3. Another form of viewing that reassure the young child is the tion of any foreboding blind c blind doors along the entry pa standing eye level, 36″ at 3.0 t Department of Education and 1967, p. 48).

When leaving the Center, the and child may need to reacquain selves (to talk, to hug, to sit). Th pleasant places to sit should be p the way to the automobile parki the public pathway.

ition Place for nd Child

Pattern 6

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place where the
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few times. The
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to welcome him
per, *et al.*, 1968,
require a visit by
e the first day's

consuming and
are seldom a part
a home visit,
o enter on the
l design cannot
ut it can create
e the child to see
place to be after
8, p. 183).
criteria to aid

the mother and child in developing a good feeling for the Center as they are approaching.

1. There should be enough time to look over the Center while approaching the building entry and court, including places to pause and reassure a reluctant child. The amount of time is hard to pin down, but we can at least establish what an *un*-acceptable solution would be: a building without windows and an entry door 6′–0″ from the automobile drop-off point.
2. During this viewing, the physical environment should communicate to mother and child that the Center is a good place to be. This communication can be through views of children playing indoors or outdoors or by providing a "delightful" transition experience (see Pattern No. 5 for further discussion of views into the Center).
3. Another form of viewing that will help reassure the young child is the elimination of any foreboding blind corners or blind doors along the entry path (average standing eye level, 36″ at 3.0 to 5.4 years—Department of Education and Science, 1967, p. 48).

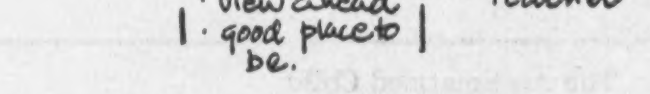
When leaving the Center, the mother and child may need to reacquaint themselves (to talk, to hug, to sit). Therefore, pleasant places to sit should be provided on the way to the automobile parking area or the public pathway.

The Acclimatized Child

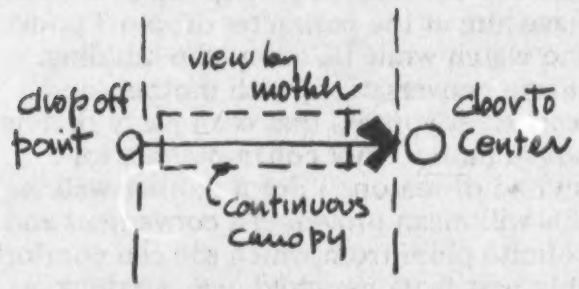
After the child has become familiar with the Center and is eager to attend, the mother should have the option either to take the child to his play group area or to leave him at the perimeter drop-off point and watch while he enters the building. (From conversations with mothers and teachers it appears that each party prefers not to have a daily confrontation for a myriad of reasons.) For a mother walking, this will mean providing a convenient and definite place from which she can comfortably part from her child, e.g., a railing, a few steps, a gate. (Alexander *et al.*, 1966B) calls this point a "natural threshold." To complete this unassisted entry by the child, he should be able to operate the entry door without ringing for the teacher. (See Pattern No. 33 for examples of child-scaled doors.)

The mother who is dropping off her child from an automobile will need a place where she can park and watch the child as he enters the building. If the Center provides bus transportation, the driver should have this same convenience.

A covered canopy from the entry door to the auto/bus drop-off area and the pedestrian threshold point will make this solution workable even on rainy days. The canopy can take an indirect path to the door since people will go out of their way to use it, and it may be an unnecessary obstruction during fair weather (Alexander, 1966B)

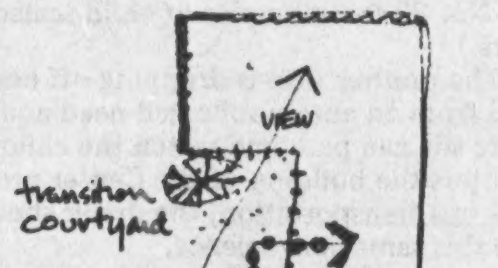

transition place
public circulation
entry to the Center or where child meets teacher
· enough time
· view ahead
· good place to be.

No. 1: Initial entry by a child



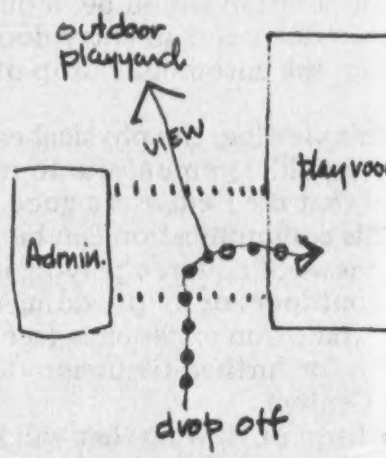
No. 2: Acclimatized child

Example Solutions*



No. 3

Diagram No. 3: A transition cour
provided for each play group env
Views into the indoor area are po
the child moves up the ramp and
the courtyard. The ramp, placed
the building, allows the building
on the property line and yet gives
time to look over the Center. The
the ramp will serve as a definitive
say good-bye to the child if the m
not want to see the teacher. The
Child Study Center has a similar
but the rear courtyard is hidden f
auto drop-off area and does not a
mother to see her child enter the
floor plan, appendix).



No. 4.

*The following examples all assume
try to the group play environment is dis
the exit to the outdoor play areas. A nu
ters have an entry that passes through th
play yard (see Eveline Lowe School, ap
solution allows the child to begin playin
immediately and gives the new child an
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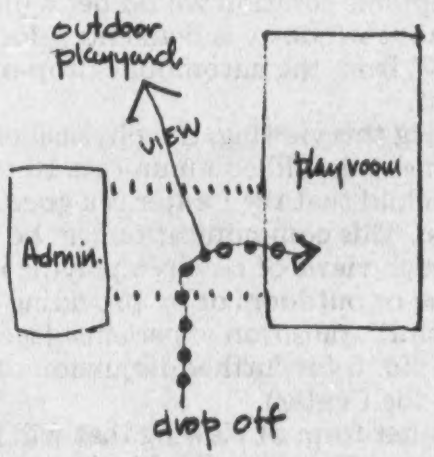
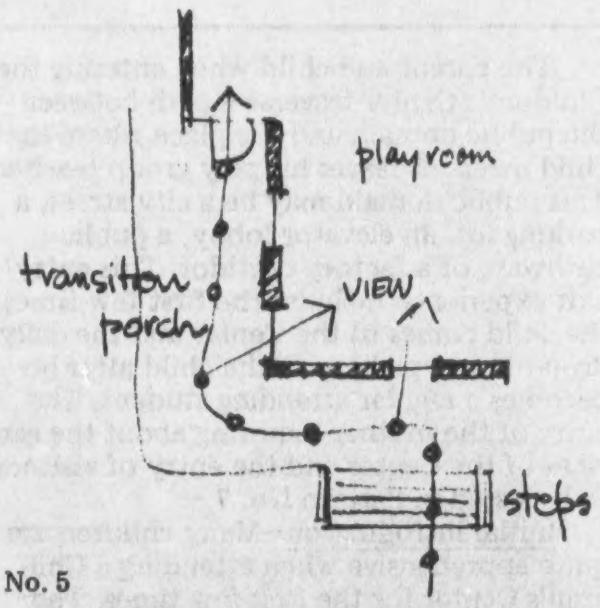
Diagram No. 3: A transition courtyard is provided for each play group environment. Views into the indoor area are possible as the child moves up the ramp and through the courtyard. The ramp, placed parallel to the building, allows the building to be placed on the property line and yet gives some time to look over the Center. The bottom of the ramp will serve as a definitive point, to say good-bye to the child if the mother does not want to see the teacher. The H. Jones Child Study Center has a similar solution but the rear courtyard is hidden from the auto drop-off area and does not allow a mother to see her child enter the Center (see floor plan, appendix).



No. 4.

*The following examples all assume that the entry to the group play environment is distinct from the exit to the outdoor play areas. A number of Centers have an entry that passes through the outdoor play yard (see Eveline Lowe School, appendix). This solution allows the child to begin playing outdoors immediately and gives the new child an immediate knowledge of this new place. But the danger of visitors falling over loose equipment, the possible loss of children through the entry gate, and the disruption of the playing children by entering visitors seem to be disadvantages that outweigh the few merits of this approach.

Diagram No. 4: An interior lobby as a transition place from which a child can view into the outdoor play yard. Children's art and other "delights" could be housed in this area.

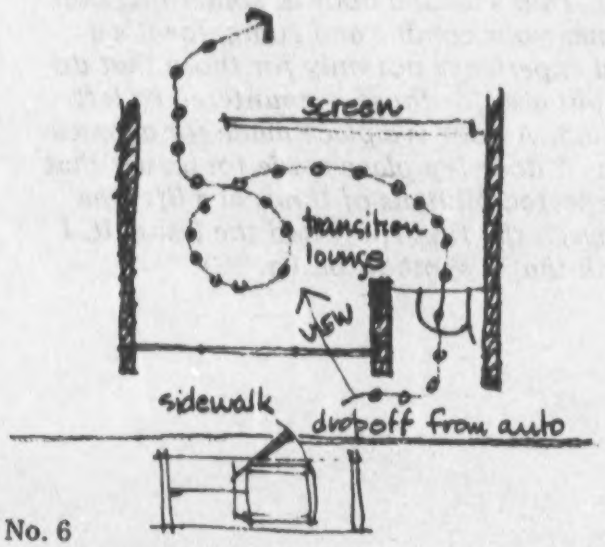


No. 5

Diagram No. 5: When choosing an old house for housing a Children's Center, look for one that provides the criteria of this pattern. A porch can serve nicely as a transition place and the longer the path to the door the more time the child has to glance into the indoor play area. A porch swing could serve as a place to reassure a reluctant child and the bottom of the stairs as a good-bye point for mother and child.*

*A bleak entry area for a Children's Center in Reston, Virginia was transformed into a delightful transition place. The given situation was a stairwell entry area consisting of concrete stairs, concrete block walls, and iron stair railings. The teachers constructed a soft sitting area under the stairs, filled the areas with plants and flowers and lined the stairs with children's drawings.

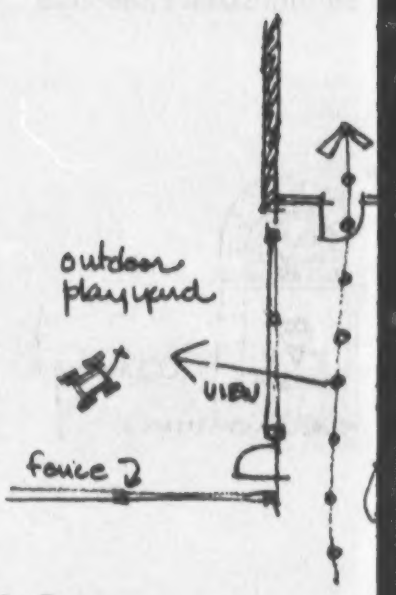
An old house similar to others in the neighborhood may present a reassuring image for the new child. (The Child Minders School and the New Nursery School are remodeled houses similar to others in their neighborhood, appendix.)



No. 6

Diagram No. 6: If a Children's Center will be housed in a storefront space, then a transition place will be needed to offset the entry door located directly on the sidewalk. The storefront window serves to view the interior of the Center, although briefly. Therefore, the transition place should be created on the interior giving a child a chance to look over the place. The plan for the Hilltop Center (appendix) could have this quality if the wall between the reception area and the indoor play area were transparent.

Diagram No. 7: A view into the outdoor play yard is provided as the child moves along a shaded path into the Center. A mother and child can sit on a bench and view the playing children as they prepare to enter the Center. The fence will need a see-through quality at child height to allow a



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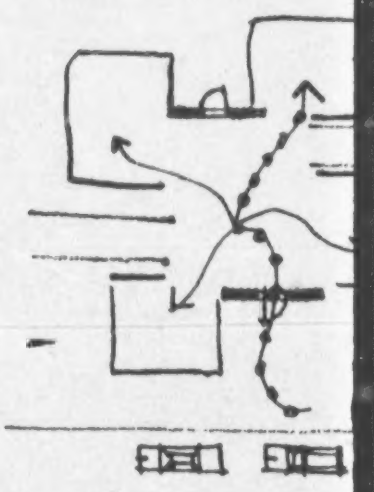

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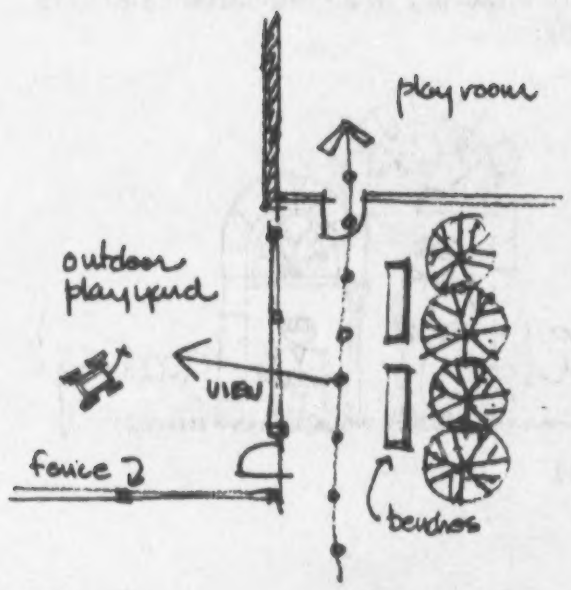
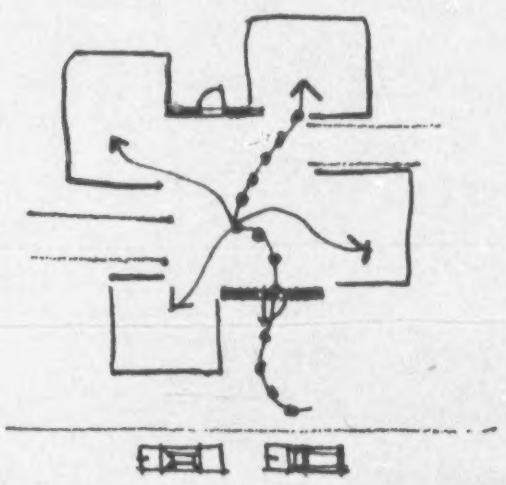


No. 7

view into the play yard from the bench. An acclimatized child can enter directly into the play yard if the teachers want to make this option a part of the program.



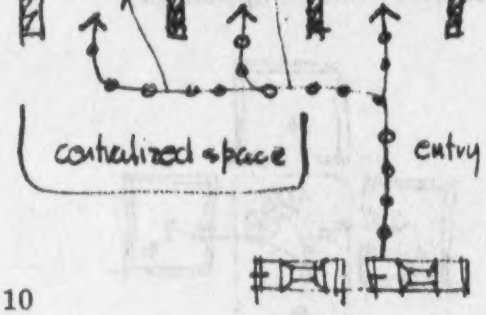
No. 8

Diagram No. 8: The child is received at the living room-entry door and then moves through an interior transition place to his play room. Views into the Center would be a desirable addition to this Center (see Lamplighter School, appendix).

No. 9

Diagram No. 9: The child is received in an exterior courtyard and then moves to his group play environment. All entry doors are visible from a car parked at the curb. The courtyard can be provided with features that allow mother and child to pause, i.e., a fountain, a sandbox, a climber, or some benches. The Bing Nursery School (appendix) has a courtyard scheme but the play room doors are not visible from the car drop-off point. Views into the play rooms from the courtyard would also be helpful. (See also the entry courtyard, A Children's Home, appendix.)

Diagram No. 10: A lineal corridor or activity hall can act as the interior transition place. The child views into the group play environments from this hall. This is a good solution in a cold climate (an exterior courtyard would not be a place to pause in winter). A beverage machine could be placed in the hallway, or in the courtyard schemes above, to allow a mother and child to pause on their way home. This corridor could be



No. 10

part of a factory in an industrial child care setting.

No. 11

Diagram No.
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No. 11

Diagram No. 11: The door as a transition place. From van Eyke (1968A):

What then, I ask, is the greater reality of a door? Well, perhaps the greater reality of a door is the localized setting for a wonderful human gesture: conscious entry and departure. That's what a door is, something that frames your coming and going, for it's a vital experience not only for those that do so, but also for those encountered or left behind. A door is a place made for an occasion. A door is a place made for an act that is repeated millions of times in a lifetime between the first entry and the last exit. I think that is symbolical. (p. 96)

Visitors/ Administration/ Staff

The duties of the Children's Center director and the receptionist/secretary will be to meet with parents inquiring about services, to discuss problems with a parent that were not resolved by the child's play group teacher, to meet with visitors, to organize with the staff the daily program, and to keep records. This work will require a quiet office area for individual and small group meetings and a reception area (Kellogg, 1949, p. 17). This office or additional offices will be needed if the Center brings in consultants to talk with parents and children, i.e., psychologists, social workers, medical advisors (Haase). A meeting area will be required for staff and parent meetings. The administration area can be a separate area broken into reception area, offices, and meeting rooms (formal), or it could be integrated with other functional areas of the Center (see solution examples below).

The entry solution should provide a way to announce visitors when the receptionist and director are not in the immediate vicinity of the entry. For a small Center with a part-time receptionist/secretary and a teacher/director, this may be a common occurrence. A buzzer could be used by the visitor to announce his arrival, or a notice could be posted directing the visitor to the director, or the reception area could be connected visually to the group play environment so the visitor's arrival could be seen.

In Pattern No. 6 we discussed the need to provide an entrance to the Center that "welcomed" a new mother and child. A number of criteria were suggested to help relieve the child's apprehension through the design of the entry experience. But an initial visit to the Center by a mother inquiring about services may include the child and can have an important bearing on how a child approaches the Center if he later becomes an attending student. Therefore, this entry into the reception-administration area should also fulfill the requirements of Pattern No. 6 and be a place of welcome.* A simple way to do this is to funnel all visitors, parents and children through the same entrance, but as the Center becomes larger, separate entries may be needed. A visitor should be guided to the reception area in a Center with separate entries, since unannounced visitors in the group play environment is disruptive to the teacher and the children.

A Center, with drop-off parent parking, should have a separate visitor parking area to minimize disruption of the drop-off procedure. Signs may be needed to effect this separation even though the two area are physically distinct.

*The author has seen lobbies in some Centers that are so formal and bland that they probably increase a child's apprehension. The need for a "formal" administration area seems to have a minimum of applicability in a "place for children."

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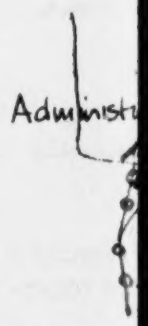

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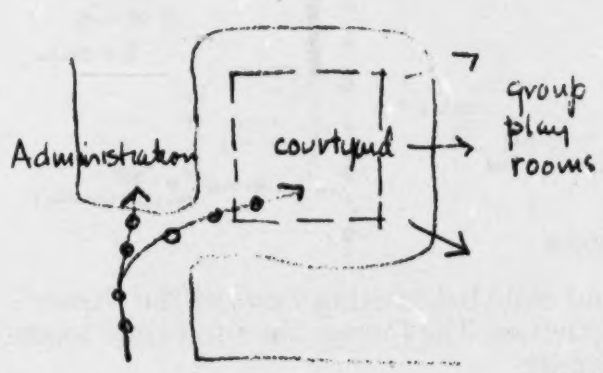
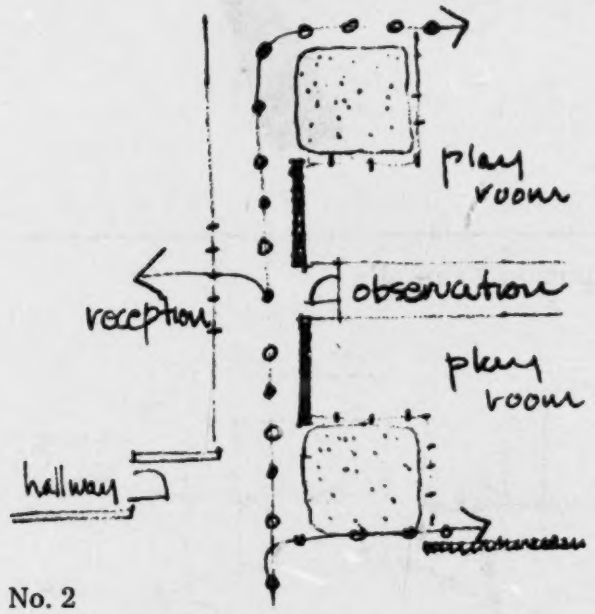
Solution Examples



No. 1

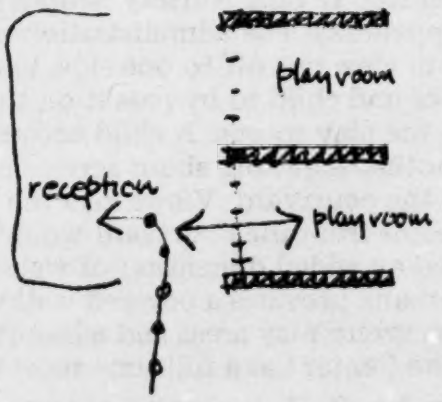
Diagram No. 1: Bing Nursery School (floor plan, appendix). The administration area is clearly in view but off to one side, allowing a mother and child to by-pass it on their way to the play rooms. A child accompanying a mother inquiring about service can play in the courtyard. Views into the group play rooms from the courtyard would have provided an added dimension of welcome. An overhang provides a covered walkway between group play areas and administration. The Center has a full-time receptionist.

Diagram No. 2: H. Jones Child Study Center (full floor plan, appendix). A good placement of the reception area once you find it. It is too hidden from the street, and a visitor is tempted to enter either the playroom or the hallway door. Reception was placed in this compromised location to supervise entry into the observation area and testing rooms. Entry of the inquiring mother



No. 2

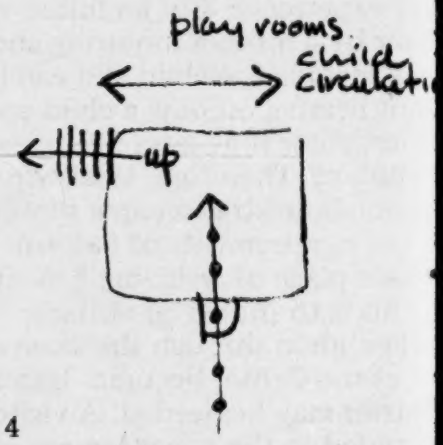
and child has inviting views of the Center's activities. The Center has a full-time receptionist.



No. 3

Diagram No. 3: A Center with a part-time receptionist. A view between the group play

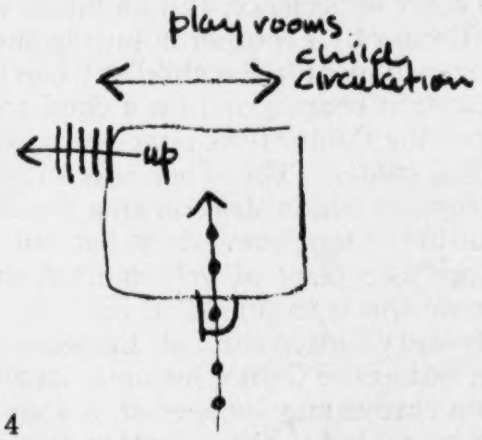
area and the reception area allows teacher-director to see a visitor, in she will be there in a minute, finis work with a child, and then come same view allows mother and child to look over the Center. (See the C School, appendix.)



No. 4

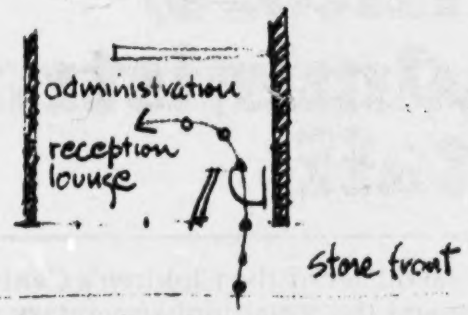
Diagram No. 4: A vestibule in a re house will act as a hallway/recepti [(3) above] if it is separate from t play area (not an internal circulati for the children). Placing the offic stairs would give the necessary pri this clarity of circulation cannot b vided, then separate entries to the and the office area should be prov Child Minders School and the New School, appendix).

area and the reception area allows the teacher-director to see a visitor, indicate she will be there in a minute, finish her work with a child, and then come out. This same view allows mother and child a chance to look over the Center. (See the Casady School, appendix.)



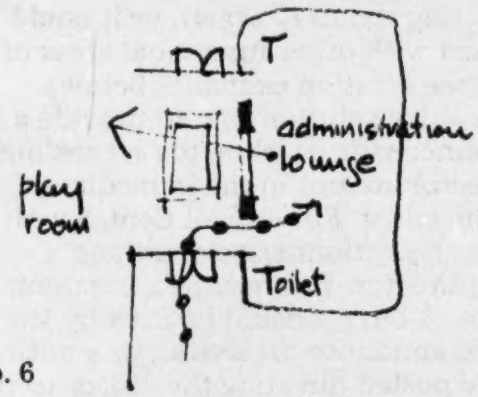
No. 4

Diagram No. 4: A vestibule in a remodeled house will act as a hallway/reception area [(3) above] if it is separate from the group play area (not an internal circulation path for the children). Placing the office area upstairs would give the necessary privacy. If this clarity of circulation cannot be provided, then separate entries to the play area and the office area should be provided (see Child Minders School and the New Nursery School, appendix).



No. 5

Diagrams No. 5 and 6: Centers using a combination administration/reception area/parents' lounge. The Early Learning Center (floor plan, appendix) has a confusing entry area where visitor circulation and circulation to the children's toilets can potentially disrupt one another. An interesting feature of this Center is the observation view panel which allows viewing of the children while a conference is in process. For other multi-use reception areas, see prototypes, Department of Education and Science (Appendix). See also Pattern No. 27 for examples of combined lounge and office areas.



No. 6

Entry and Exit from the Group Play Environment

A Center can have separate group play areas (15 to 30 children), one large group play environment (60 to 100 children), or an in-between solution which attempts to provide home rooms linked together by multi-use circulation space (Pattern No. 3). But in all cases the group play area needs to be served by an entry area. This entry is the point where a child meets his teacher and playmates each morning, and in reverse form, it is the point where mother and child meet again in the afternoon and then depart for home. For the new child this entry/exit point is especially significant on the first few days of attendance. From Gesell:

The entry of a child into a nursery group is comparable to a weaning process. The mother must surrender her child and the child must surrender, at least temporarily, his mother. (p. 267)

Gesell suggests that the mother be encouraged to spend decreasing amounts of time at the Center, gradually easing herself away from the child. Other educators suggest a more abrupt separation of mother and child. Foster and Mattson (1948) suggest:

In the majority of cases, the child makes an easier and happier adjustment to the school situation if he does not find himself torn between the home and the school as represented by his mother and the teacher. If the mother stays, the child is likely to display some sort of undesirable behavior . . . . In general, however, the first day in kindergarten is more successful from the point of view of both the teacher and the child if the parents or other relatives do not stay with the child. (p. 110)

And from Kellogg (1949):

Give kisses, but don't ask for them and don't insist on being answered good-bye by your child. Be sure, however, that he hears you say good-bye. Also, do not give him any instructions to be a "good boy"; to eat a big lunch, or to play nicely with the children. Rather say "Good-bye, I'll come for you at such and such time." Then go. (pp. 328–329)

This latter approach to parting suggests a well-defined point where the mother can make her exit. A low wall, railing, or bench would be places where a mother could make a definitive break (see similar discussion, Pattern No. 6). If a Center is organized on the gradual separation principle, this breakpoint is not absolutely required, but it will have the same advantage when the mother does finally leave her child.

Some teachers provide an area near the entry containing non-threatening materials that help ease the new child into the play group environment (Pattern No. 18). Nancy Rambusch of Child Minders School goes one step further and suggests that a new child can have his anxiety reduced through novel play environments. She calls it "decompression through novelty." Her Center in Greenwich, Connecticut contains a room adjacent to the entry (Diagram No. 1) (floor plan, appendix).

By defining a breakpoint between mother and child, we have the beginning of

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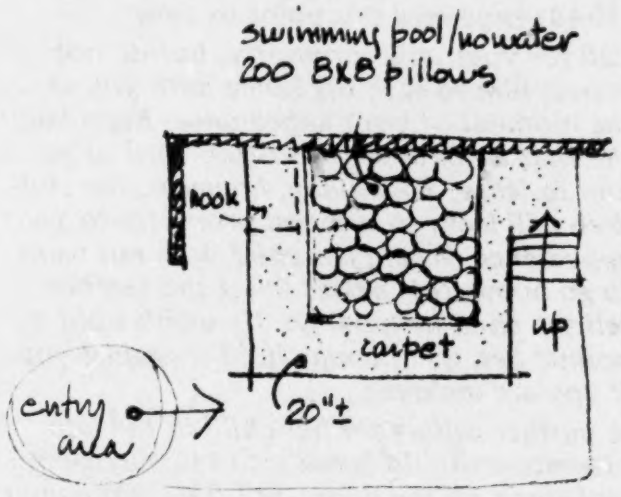


No. 1

the entry/exit area. The area gets more specific definition by serving several other functions during the daily program.

In Pattern No. 6 we pointed out the option desired by many mothers of dropping off their child outside the Center. This implies the teacher will be welcoming only new mothers or mothers who have something they want to discuss with the teacher and the children. Therefore, some seating will be needed in the entry to allow a parent/teacher conversation while greeting the children. If a teacher makes a health check on each child, space will be needed for the children as they line up (Kellogg, 1949, pp. 296–298).

Although many mothers drop off their children outside the Center, the majority will come to the group play area to pick up

their child. This is especially true for an all-day program where the mothers arrive at differing times due to varying work schedules.

When a mother arrives, her child may be involved in an ongoing activity, and most teachers prefer the completion of that activity before going to the parent. Kellogg (1949) expresses this point of view:

Call for your child promptly, but do not expect him to rush off home with you at the moment of your appearance. Especially the first week or so, it is often hard to get him to leave. Eventually, however, the children will learn to respond promptly to your appearance. Where the child does not want to go home, it is better to let the teacher tell the child he must go. He won't hold it against her, and he may hold it against you if you are insistent.

A mother calling for her child in the late afternoon should come into the playroom and stand by the door until the child comes over to her. (pp. 329–330)

These requirements necessitate an e area where the parent can stand or sit a wait while the child completes his play tivity or puts on his coat (Pattern No. 1 If this area is not provided and the pare is left standing in an undefined place, h natural feeling will be one of exposure, she will wander over to see what her chi is doing. The device which serves as the mother/child breakpoint, discussed abo can also act as means to define the wait area.

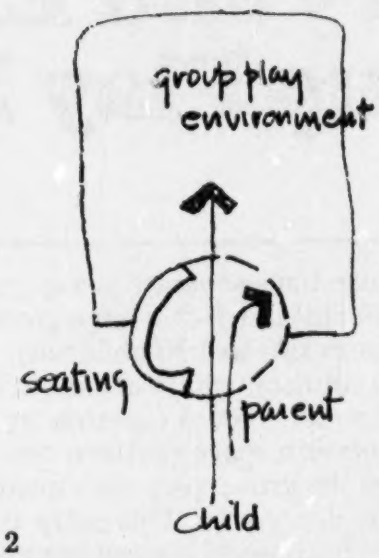
Children's paintings, child care infor tion, and notices can be placed in this e area or at other points along the path b tween the group play environment and entrance to the Center.

A Center that utilizes the group pla environment as a multipurpose room in which napping takes place will need an try solution that provides isolation of li and noise when the children are sleepin but can be open at other times to allow viewing into the play area.

These requirements necessitate an entry area where the parent can stand or sit and wait while the child completes his play activity or puts on his coat (Pattern No. 13). If this area is not provided and the parent is left standing in an undefined place, her natural feeling will be one of exposure, and she will wander over to see what her child is doing. The device which serves as the mother/child breakpoint, discussed above, can also act as means to define the waiting area.

Children's paintings, child care information, and notices can be placed in this entry area or at other points along the path between the group play environment and the entrance to the Center.

A Center that utilizes the group play environment as a multipurpose room in which napping takes place will need an entry solution that provides isolation of light and noise when the children are sleeping but can be open at other times to allow viewing into the play area.



No. 2

Diagram No. 2: *The Entry—a definitive place*—a lobby, a lounge, a hall, a vestibule, a door step, an in-between place.

The Group Play Environment

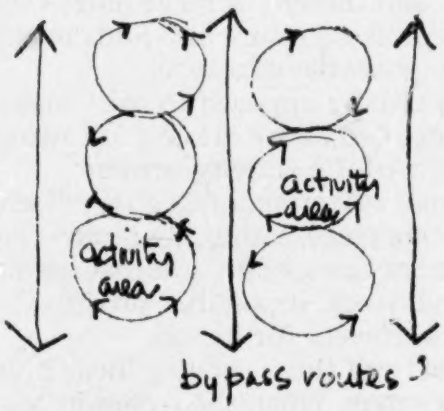
Pattern No. 3 gives guidelines for establishing the organization of a Children's Center; the major elements being the particular approach to early childhood education, the structure of the teacher/child play groups, and the activities to be included in the daily program. These elements come together to form a *program* which has its physical locus in the group play environment. *The group play environment is the child's "home" space plus any indoor extension of that space.* Here the child will spend the major portion of his hours at the Center.

The relationship between the *program* and the group play environment should be one of "good fit," i.e., the physical environment should give maximum support to the program goals. The three program structures discussed in Pattern No. 3 have differing requirements for a group play environment. These differences will be discussed in this pattern.

I. A Program of Free Activity Choice

The first "schools for the very young" were the kindergartens started in Europe in the late 1830's. These Centers took children from three to six years of age and were primarily oriented toward group play sessions. These group sessions, where *play* was paramount, were in contrast to the rote training of the traditional classrooms but they were still teacher-directed and on a strict time schedule. Under the influence of various educators, early education gradually evolved into a more individualized program. The lineal time schedule was replaced by "free play" periods that utilized a wide variety of educational materials, and teacher-led group play developed into a *subtle system of individualized instruction* (Waechter and Waechter, 1951, pp. 9–15). The free choice program is still dominant within the field of early education but it is being challenged by more structured programs (Pines, 1966).

The following are the design parameters for a group play environment housing a program of free activity choice.



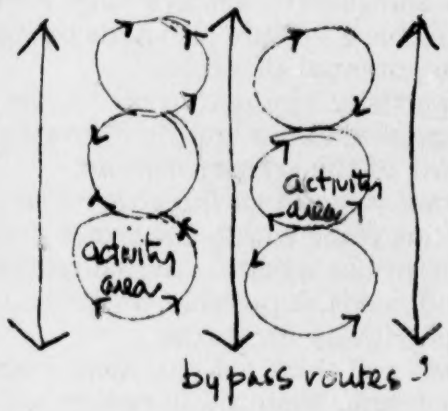
No. 1

Free flow--For a child to choose his own activities, he will need an environment scaled to his height and capability (Pattern No. 4) and will require that all play materials be "distinctly" displayed (Pattern No. 11). Children can flow freely between activities while making their choices. Cockrell (1935) found that children will change play activities every 81 seconds until they find one material that they will settle down with on an average of from 3 to 11 minutes (Landreth, 1967, p. 164).

Environment Pattern 9

ducational materials, and teacher-led group
lay developed into a *subtle system of indi-
idualized instruction* (Waechter and Waech-
er, 1951, pp. 9–15). The free choice pro-
ram is still dominant within the field of
arly education but it is being challenged
y more structured programs (Pines, 1966).

The following are the design parameters
r a group play environment housing a pro-
ram of free activity choice.



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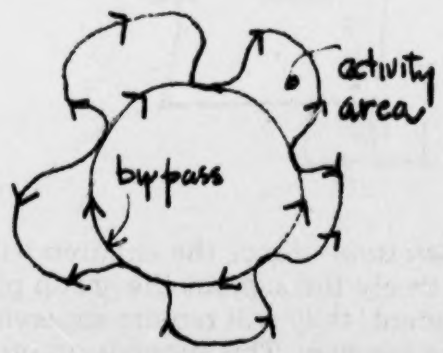
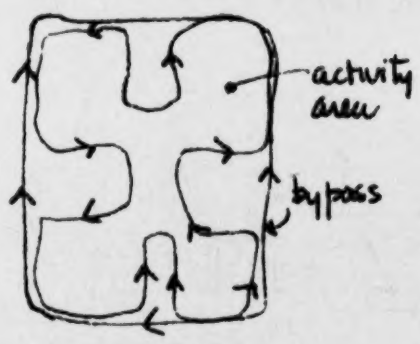


No. 2

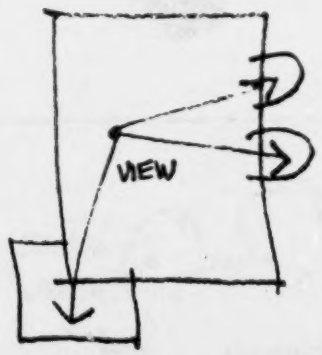
A meandering path between activities will allow the children to look over each potential activity and a bypass route would allow quick movement from one side of the room to another without disrupting those engaged in an activity or those children "shopping" (Diagrams No. 1, 2, 3, and 8).



No. 3

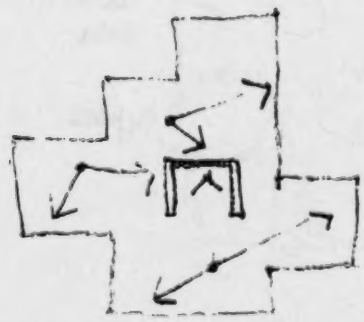
If a bounding element is used to enclose activity areas (see solutions), it will also define the pathways, but in a scheme with un-

bounded activity areas the teacher may need to keep these pathways clear.



No. 4

Supervision—Since the children will be moving freely throughout the group play environment, they will require supervision from the teachers. This supervision provides *assistance and educational guidance* to the children when needed (Pattern No. 4). Therefore, the geometry of the group play environment should allow visual access to the total space (all activity areas) by the adults working in that space (Diagrams 4, 5, and 7). This implies that geometries other than rectangles can be utilized since teachers tend to spread themselves equally throughout the group play environment (Deutsch, *et al.*).*



No. 5

Multi-Use Space—Both free flow and supervision tend toward open space planning (minimum distinction between corridors and activity spaces). Another tendency in that direction is the potential for creating multi-use spaces, i.e., an open area of floor that can be utilized for many different activities (Diagram No. 9). This flexibility is utilized by many Centers to reflect spatially the changing popularity of activities that can occur daily, weekly, or seasonally. For other Centers, flexible space is an economy measure that allows a maximum number of activities to take place in a small area.

The *clustering* of utilities (plumbing, heating, etc.) *peripheral* to the activity areas is usually associated with open space planning, due to their relative permanence and lack of flexibility. This clustering in one location allows the utilities to serve several activities and thereby achieve more economy. Movable furniture also adds to the multi-use potential of a space.

But partially opposed to the "open planning" suggested above are the following requirements of the activity centers:

Internal Functional Integrity—Each activity taking place within the group play environment has specific internal requirements and needs, if possible, an area designed specifically for its use.

We will call these activity locus points activity centers. When these centers are grouped together in the play group environment, there will be a tendency to overlap, and the *internal functional integrity* of each center should be maintained.

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*Pattern No. 4 suggests that the teacher's presence in any space should be minimized by the configuration of the space (high ceiling, open planning) and by the placement of teacher circulation within the space (off axis). These criteria should be combined with the requirements of this pattern.

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The primary elements of this integrity are enclosure, acoustic privacy, sufficient area, and a sense of place (Diagram No. 6).

Enclosure—Moore (1966, p. 107), in a study of playground children, found that a "sense of enclosure" was desired by the child when concentrating on an activity that was relatively quiet and passive (compared to outdoor play, all indoor activities are passive). This enclosure had spatial definition and often included visual separation from adjoining areas.

The greatest amount of creative activity in terms of both frequency and span took place behind the play house. It is suggested that one of the reasons for this was the sense of enclosure there, spaces of adequate size for construction activities, cut off psychologically from the surroundings, where a child could, and felt that he could, work unhampered, even though other activities were going on immediately adjacent to the area. (Moore, 1966, p. 107)

The relevance of visual enclosure to creative areas is difficult to assess. On the whole it appears to be more a question of reducing visual access from outside/in, rather than from inside/out. (*ibid.*, p. 109)

This question of enclosure is discussed further below, under "a sense of place" and in Pattern No. 32, *Passive Outdoor Play Area.*

Acoustic Privacy—The need for noise level control in a Children's Center arises out of two conflicting tendencies. On the one hand, teachers want the child to express himself freely ("minimum don'ts in the environment," Pattern No. 4), but on the other hand, noise can be fatiguing and disrupting to other children and the teachers.

From Lowenfeld (1935):

Exercise of the body, of the voice, of the whole person in the production of the maximum possible commotion is an absolute

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*Pattern No. 4 suggests that the teacher's presence in any space should be minimized by the configuration of the space (high ceiling, open planning) and by the placement of teacher circulation within the space (off axis). These criteria should be combined with the requirements of this pattern.

necessity at some time or other to every healthy child. Noise is necessary, movement is necessary, and to be healthy these must be allowed to be exactly what they are—shapeless explosions of an over-plus of energy. (p. 62)

And from Landreth and Moise (1949):

The very nature of their activities tends to make young children noisy companions. Noise, however, excites and fatigues both children and staff members.

Therefore, sound control must be introduced into the group play environment to keep noise to an acceptable level. This pattern will not cover the technical requirements of acoustic control since we assume this knowledge will be found in the local design team, but several overall suggestions might be helpful.*

It has been found that background noise can be relatively high and not interfere with adjacent activities, especially if the activities which produce "impact" noise are isolated at their source. For example, the Eveline Lowe School has a combination tile and carpet floor and a minimum acoustic treatment on the walls and ceiling. Acoustic testing at this school found the following:

The school has many inter-connected working areas but the level of background noise during teaching activities, although high—in the order of 60-70 decibels—was well below normal speech interference levels. For instance, a group of about 17 children actively engaged in practical work with a teacher did not cause another teacher, reading to a group some 20 feet away, to raise her voice or appear to be interrupted. Sporadic outbreaks of noise, however, did reach distraction levels in adjacent groups. (Department of Education and Science, 1967A, p. 93)

The use of carpet for sound control is discussed in Pattern No. 15, and Pattern No. 34 suggests that noisy activities such as carpentry might be placed outdoors under a semi-shelter.

Sufficient area—The children working in an activity center will tend to expand into adjacent space, and this may produce conflicts with the children in these areas. The teachers will try to avoid these conflicts by providing sufficient area for each activity (see specific patterns) and by delineating the working area for an activity. Some teachers prefer temporary definition provided by a movable divider or storage unit and others prefer more permanent boundaries (see solution examples below).

"A sense of place"—The traditional classroom was bounded by permanent walls and contained furniture designed for a specific use and body posture. The new flexible, multi-use classrooms are designed with open space and movable furniture. Both of these approaches require a rule structure to make them work. The traditional classroom has its rules determined by the standard "lecture" approach, the lineal sequence of class periods, and by fixed furniture positions and room boundaries. The typical open classroom requires a rule structure to create boundaries, and when traditional furniture is used, it limits the work/posture positions. Another limitation of the flexible classroom is discussed by Pragnell (1969):

This is the trap that so many proponents of a certain kind of 'flexibility' make: they leave too much to use. To achieve 'flexibility' we are encouraged to sacrifice not only the variety of familiarized features (the defining objects) but also the variety of familiarized

*The design team could use the acoustic guidelines developed by the Metropolitan Toronto School Board (1968, p. 113)

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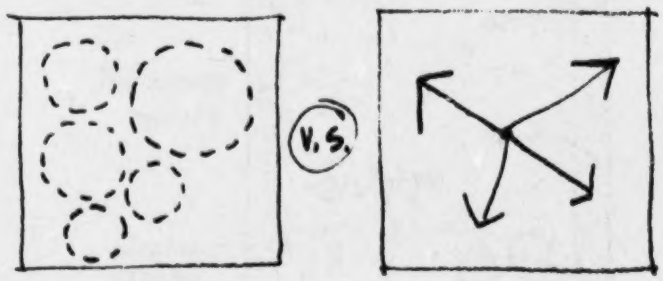
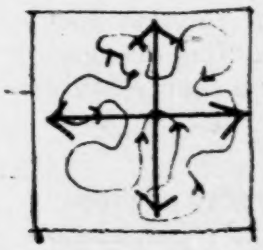
This suggests that the group play environment should allow change and manipulation but have enough definition to minimize the number of rules needed to guide the children and enough structure to stimulate use. "It is not merely what a space sets out to effect in human terms that gives it 'place' value, but what it is able to gather and transmit." (van Eyke, 1968A, p. 94).

The following diagrams summarize the conflicting tendencies which must be resolved in a group play environment housing a free activity choice program.

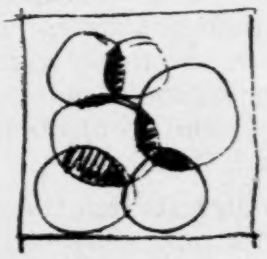


No. 6 No. 7

No. 8

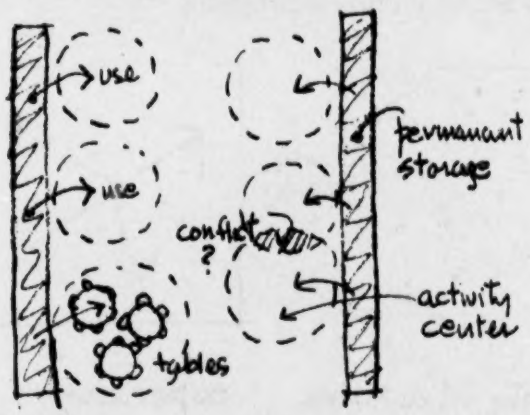


No. 9



Solution Examples

The following diagrams show various ways to resolve the conflicts shown above. Each solution places a differing emphasis on the design parameters.

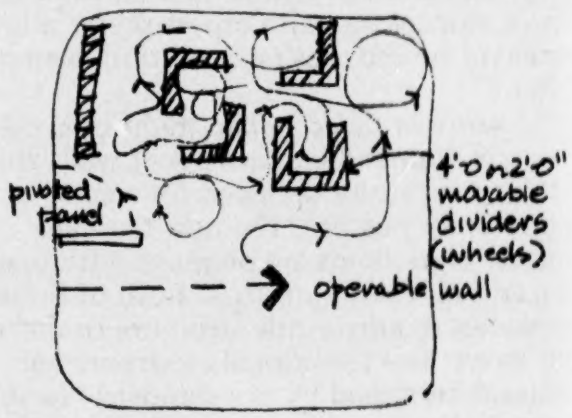


No. 10

Diagram No. 10: A completely open play group environment, no space dividers; storage shelves are permanent (see Pattern No. 11). An activity center is defined when a child or teacher places materials on the adjacent floor or tables. Mary Nordland, director of the Phoebe Hearst Preschool Learning Center, comments:

Many people like to create divisions, small nooks for children. We don't agree. We want a great deal of open, quiet, pleasing, un-trammeled space in which the children can work. (EFL, 1970A, p. 14)

Supervision is excellent; the open space allows free flow, but conflicts can arise between overlapping areas. The floor can be carpeted for noise level reduction. The lack of spatial enclosure or sense of place would be unacceptable to many teachers; a slight variation would be delineation of activity areas by floor designs or by movable floor coverings although it may be necessary to reinforce this "line" with rules (Weikart, 1970B, p. 9). The multi-use space requires shelf replacement of materials after each activity. (See Phoebe Hearst Preschool Learning Center and the Casady School, append



No. 11

Diagram No. 11: An open play group environment with division provided by low *movable* dividers or storage units, by pivoted panels, or by an operable wall.

A 4'-0" divider will provide enclosure to a sitting or standing child (average heig at 5.0 years, 3'-8"—Ramsey & Sleeper, 19 and yet allow supervision by the teachers. 2'-0" high storage unit will provide enclosure to a *sitting* child (see Pattern No. 11). good compromise is provided between flo and containment if the bounding units are

l space in which the children can
'L, 1970A, p. 14)

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flow, but conflicts can arise be-
rlapping areas. The floor can be
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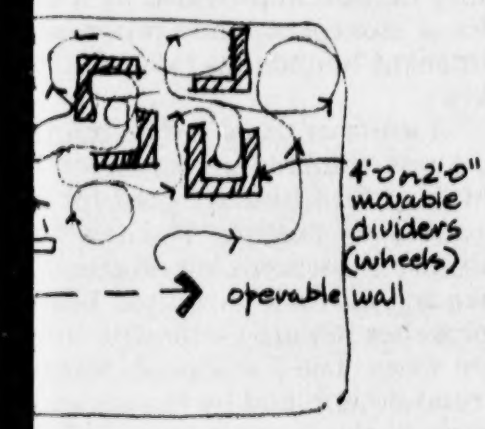
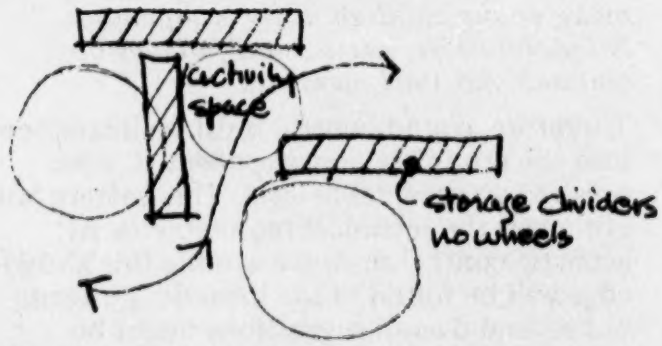


No. 11: An open play group en-
t with division provided by low
dividers or storage units, by
anels, or by an operable wall.
0" divider will provide enclosure
g or standing child (average height
rs, 3'-8"—Ramsey & Sleeper, 1956)
llow supervision by the teachers. A
n storage unit will provide enclos-
itting child (see Pattern No. 11). A
promise is provided between flow
ainment if the bounding units are
placed in an "L" or "U" configuration. The dividers can be covered with acoustic treatment for additional sound reduction.

Both schemes 10 and 11 can utilize the total area for napping, dancing, etc. by moving the furniture. (See H. Jones Child Study Center and the Bing Nursery School, appendix.)

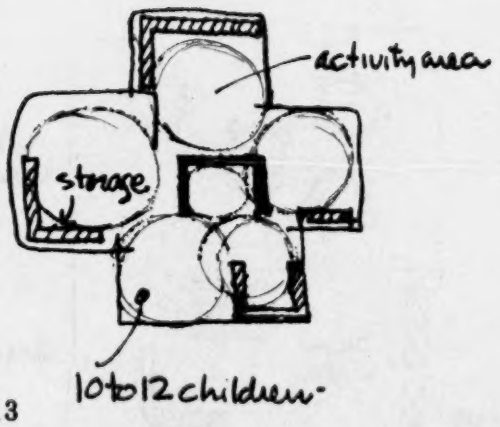


No. 12

Diagram No. 12: Division of space is provided by semi-permanent but movable dividers (See Pattern No. 11).

The Early Learning Center was designed with children in mind. Scale is crucial. Its effects are most obvious in the storage which primarily is open shelving. These low study ledges, made of boards laid on concrete blocks, are strong enough for the children to play on, easily demountable and highly accessible. Free-standing, they also serve as room dividers (the division is more psychological than physical), eliminating the necessity for partitions and creating protected bays for specialized activity within the open room. (EFL, 1970B) (See Early Learning Center, appendix).

Diagram No. 13: The group play environment is formed by a series of interlocking spaces with walls running to the ceiling. Alcove-like rooms are clustered around a tight circulation core that forms a bypass route.



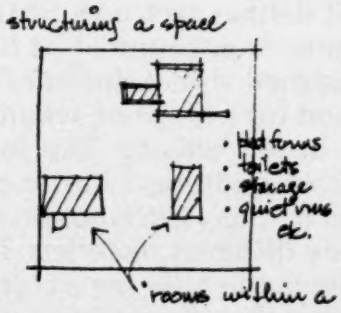
No. 13

Nancy Rambusch, director of the Child Minders School, comments:

We have provided open space although we are operating in a series of small rooms. It's like the difference between the football field (see 10 above) and the maze strategy. In the football field, you provide a huge open space for children to roam around in. In the maze strategy, the open space is broken down and specific opportunities are offered in specific places. Children can see and move into other areas, but they are always within an enclosed space. (EFL, 1970A, p. 42)

The teachers in this space provide supervision by being scattered equally throughout the space. A scheme of this type tends to use more square footage than a multipurpose group environment, and some would argue that the teachers will be too dominant in the small spaces. This is an excellent approach for remodeling an old house; the rooms are opened to one another to provide free flow, but enough walls are retained for structural stability. (See Child Minders School, appendix.)

Diagram No. 14: Spatial definition of an open space is created by "structures" within the space. These structures can be on one or more levels and they can house activity



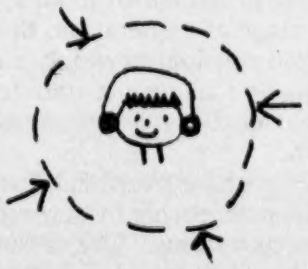
No. 14

centers, quiet rooms, toilets, storage Pattern No. 12 gives limitations on tent of these structures. See also We Montessori and Ravenswood School appendix. For a scheme combining of this approach and Diagram 11, se Eveline Lowe School in appendix.

The general planning methods sh above for creating space definition supported in the following ways.

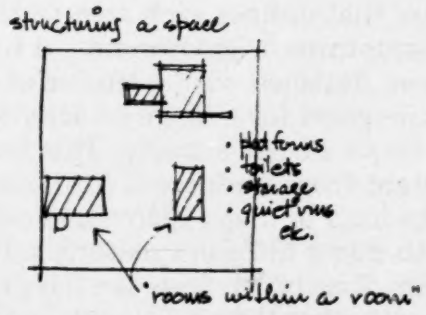
No. 15

Diagram No. 15: Lighting can be ut create an environment distinct from jacent darker areas (Pattern No. 29)



No. 16

Diagram No. 16: Earphones and tele can isolate an activity within space disruption to adjacent spaces (Powle 1967, p. 77).



No. 14

centers, quiet rooms, toilets, storage, etc. Pattern No. 12 gives limitations on the extent of these structures. See also West Side Montessori and Ravenswood Schools in the appendix. For a scheme combining elements of this approach and Diagram 11, see Eveline Lowe School in appendix.

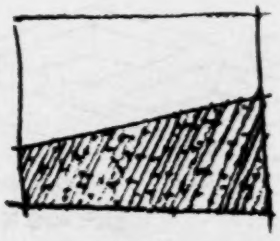
The general planning methods shown above for creating space definition can be supported in the following ways.

No. 15

Diagram No. 15: Lighting can be utilized to create an environment distinct from adjacent darker areas (Pattern No. 29).

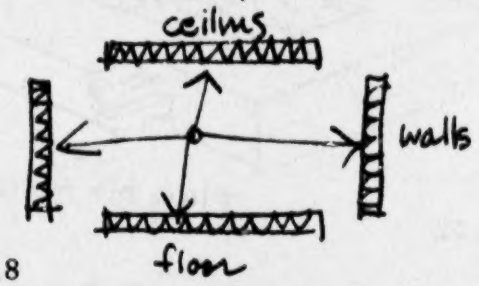
No. 16

Diagram No. 16: Earphones and telephones can isolate an activity within space without disruption to adjacent spaces (Powledge, 1967, p. 77).



No. 17

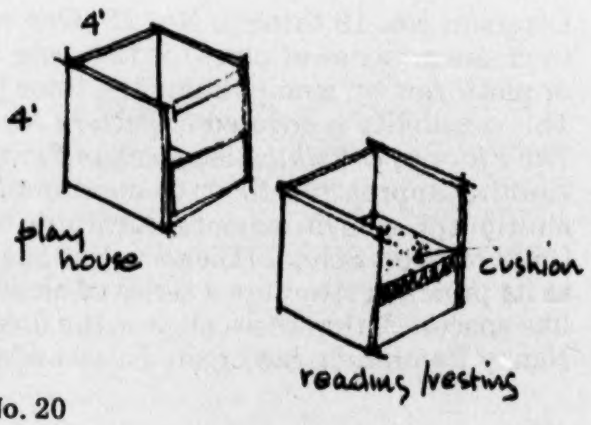
Diagram No. 17: Paint and illusion are ways to create visual separation without walls.



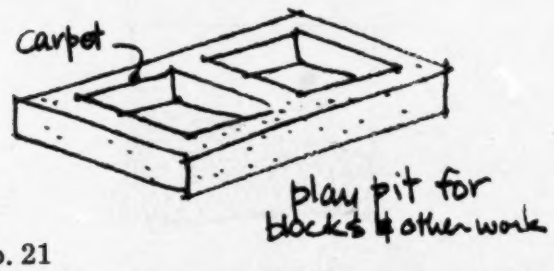
No. 18

Diagram No. 18: Acoustic materials can create different sound levels and differing moods in adjacent areas (Department of Education and Science, 1967A, p. 93).

No. 19



No. 20



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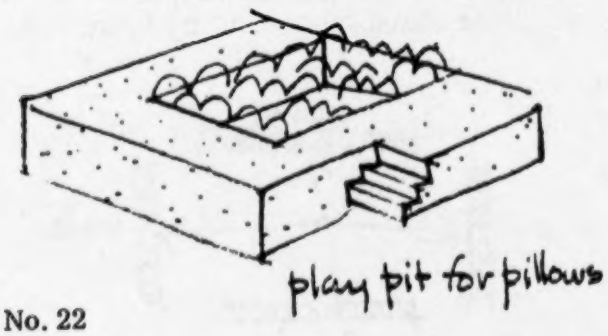

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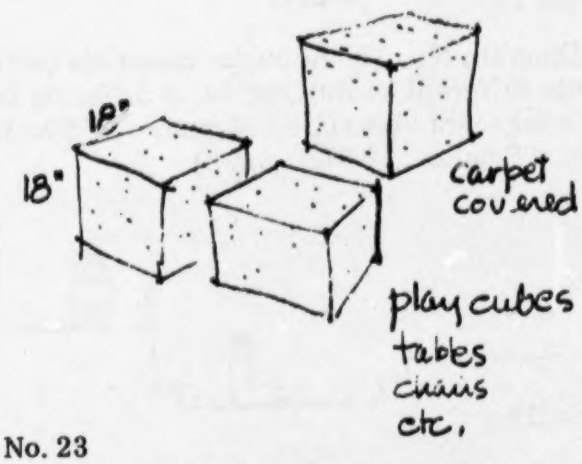

No. 23

Diagrams No. 19 through No. 23: One way to create a "sense of place" is to create wells or platforms by manipulating the floor plane. This possibility is covered in *Pattern No. 12, The Floor as a Walking Surface/As Furniture.* Another approach is the introduction of multipurpose environmental furniture. The Child Minders School (Diagram No. 13) has as its principal structure a series of alcove-like spaces. Within these alcoves the director, Nancy Rambusch, has created a secondary structure that defines each area further. These structures or environmental furniture have been designed with a cluster of characteristics good for a *range* of activities but fitting no *particular* activity. This furniture is different from traditional furniture in that it can be used in many different postures and with many different materials. In this way, Mrs. Rambusch feels she has created "an event rather than an object—a place of exploration and modification." Another aspect of her structures is their attempt to be directive, to have their rules of use built within them. She wants the environment to be directive so her teachers can be *non*-teachers and non-rule-makers.*

Of course, the group play environment can be defined by a variety of the approach shown above. Diagram No. 24 shows a typical example of a combined solution. (See floor plans in the appendix.)

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*From another point of view, these large-scale pieces of furniture are "programmed" and are a natural development in the line of self-operative materials that began with Maria Montessori's self-educational materials, although they are not as specific and allow a greater range for discovery. It is interesting to note that Omar K. Moore (1968) attributes the same freedom of exploration and discovery to his responsive environments (the talking typewriter and other electronic environments). All these "programmed" environments seem similar since they are programmed to elicit response within a wide range of exploration. But whether this can be called freedom or simply a higher level of design authority (the people who decide what is "good") is a provocative question or maybe the wrong question.

Some designers have oversimplified the problem we have been discussing by suggesting a "variety of spatial options." The difference between spaces should be based on a deep sense of the most general physical needs of a particular human activity and not on variety for variety's sake.

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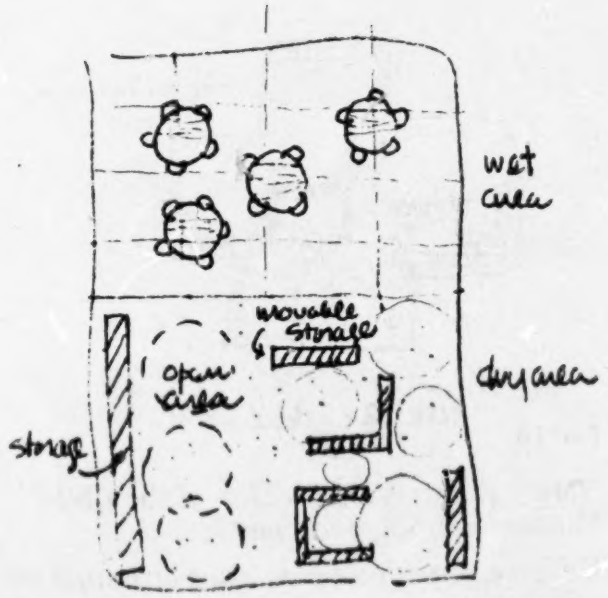
Of course, the group play environment can be defined by a variety of the approaches shown above. Diagram No. 24 shows a typical example of a combined solution. (See floor plans in the appendix.)



No. 24

II. Structured Programs
(as compared with free choice programs)

Many educators involved in "crash" programs for disadvantaged children feel that free choice programs are appropriate for the middle class child who gets plenty of adult "teaching" at home, but the child who is already behind in his educational development needs a structured, teacher-taught program (Bereiter and Engelman, 1966, p. 2). Structured programs differ in the degree to which teachers teach the range of program goals. As stated in Pattern No. 3, we have grouped structured programs into two types. One program, a middle ground between free activity choice and complete structure (slow pace), and the other a program 180° from the free choice program (highly structured).

Slow pace programs—These programs are characterized by a traditional variety of preschool materials and activities but are overlaid with a structured daily program that guides the children in the use of these materials (Powledge, 1967) (Weikart, 1970A), (HEW, Jacksonville, 1969). The daily struc-

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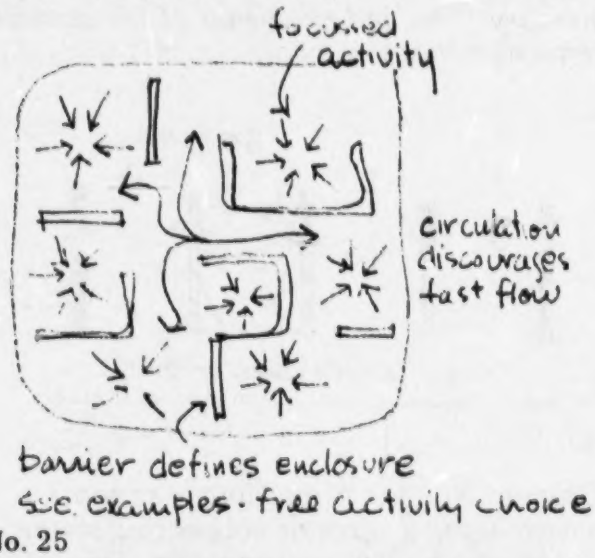
Some designers have oversimplified the problem we have been discussing by suggesting a "variety of spatial options." The difference between spaces should be based on a deep sense of the most general physical needs of a particular human activity and not on variety for variety's sake.

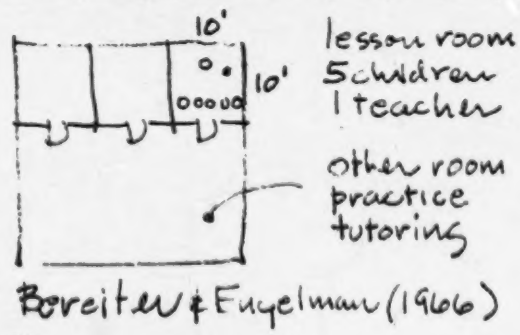
structure may allow a child some choice of activities, but he is encouraged to concentrate for long periods of time on these activities. Therefore, the design parameters are similar to the free activity space but with modifications. Free flow takes place but at a pace that encourages longer periods of concentration. Therefore, the fast through route suggested for the free choice program is not needed. Supervision is necessary but more focused on the teacher's immediate area; multi-use of space is not a daily criterion but may be needed weekly to aid a changing *sequence* of activities; and the internal integrity of the activity areas will need more definition to encourage concentration (Diagram No. 25).



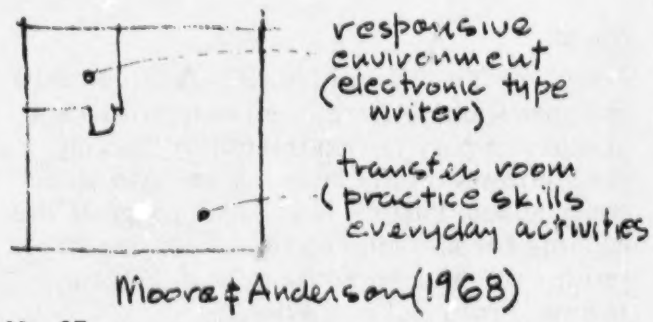
No. 25

Any loud activity noises (e.g., carpentry) will need isolation from the main area which tends to be relatively quiet.

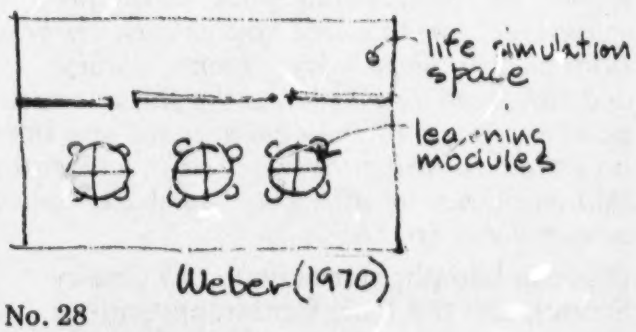
Highly structured daily programs—These programs tend to be focused on the development of language and mathematics skills and are characterized by a structured daily program that alternates between teacher-taught lesson sessions and practice sessions. The teacher may be human, a workbook, or a programmed machine. Acoustic and visual privacy is needed for the focused lesson sessions and an area similar to the slow pace room is needed for the practice sessions (Diagrams No. 26, 27, 28, 29).



No. 26



No. 27



No. 28

Square Footage in the Group Play Environment

Ideally the total square footage of the group play environment will be the area needed for each activity plus circulation,

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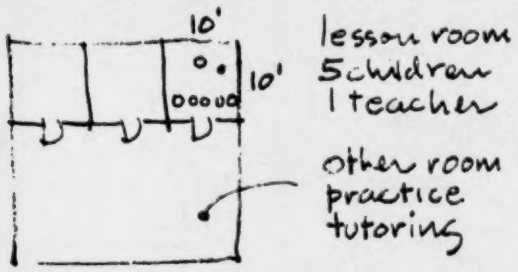

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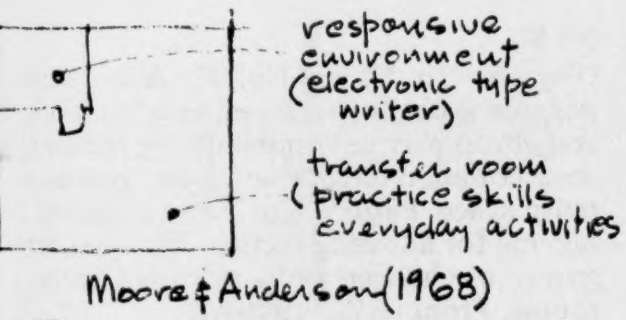

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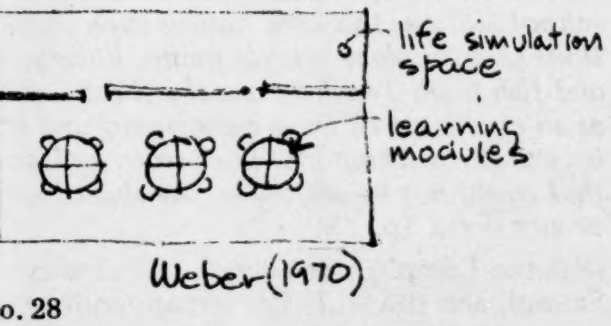

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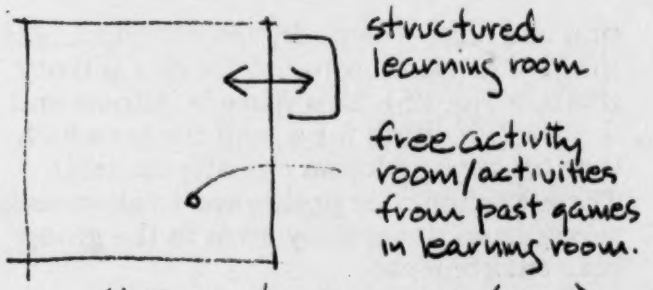


No. 29

utilities, and structural elements but modified by any multi-use criteria. We have generally not given a square footage guideline for a particular activity since it can vary significantly with the materials and the program emphasis given to that activity. These figures should be developed by the design team. Various educators suggest the overall calculation should not be less than 30 sq ft per child and preferably around 50 sq ft per child (Kellogg, 1949, p. 458; Deutsch, *et al.*, p. 24). These figures can be used as a guideline for a half-day program, but this author feels they are not sufficient for a full-day program. This is especially true if a separate sleeping area is provided for each group play area (Pattern No. 25). Depending on the approach to napping, a sleeping area can add from 6 to 30 sq ft per child. Since other patterns also suggest additional considerations for an all-day program (Pattern No. 4), we might estimate the need for about 60 sq ft per child for an all-day program.

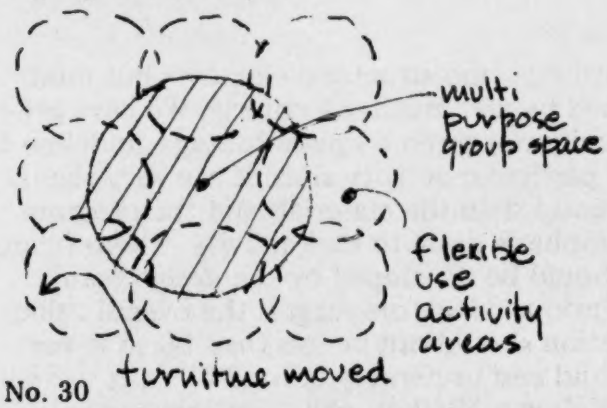
Large Group Space*

A large open space is needed where *all* the children can come together for dancing, movies, story telling, dramatic play, ques-

*A separate pattern could be written on the need for a large group multipurpose space, especially if this activity took place in a separate room, but, as shown below, this area can be integral with the group play environment.

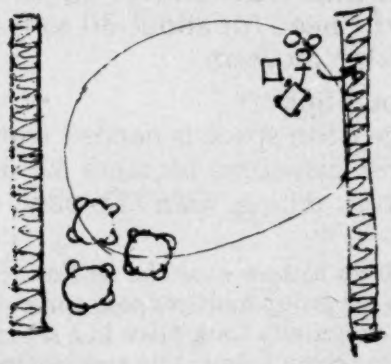
tion and answer periods, and for napping if this is the desired solution for this activity (Pattern No. 25). This space is indoors and is not a substitute for a semi-shelter which is *outdoors* (minimum climatic control). The area should be positioned to allow easy access from the activity areas in the group play environment.

Example Solutions



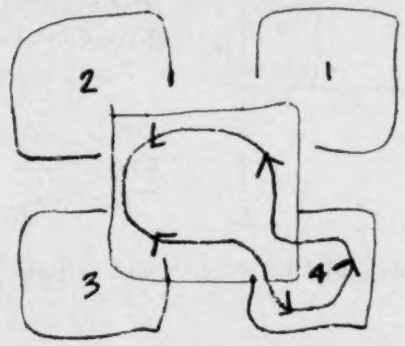
No. 30

Diagram No. 30: A large multipurpose space is developed within the group play environment from an overlapping of circulation space and the activity areas. This is possible in a scheme that provides space flexibility for the major portion of the group play environment through movable dividers, furniture, and storage units. (See Bing Nursery School, appendix.)



No. 31

Diagram No. 31: The total group play environment is a single multi-use space without dividers. Group activities can take place at any time by placing the play materials in the wall storage units. (See Phoebe Hearst Preschool Learning Center, appendix).



No. 32

Diagrams No. 32 and No. 33: A large multipurpose space is developed *external* to several group play environments by making their common circulation space into an activity space. Pattern No. 3 also suggests this scheme for allowing contact between larger groups of children while retaining home rooms. From (EFL, 1970A):

Each group of four classrooms is clustered around an open, shared space. In the preschool section, this area houses such attractions as a fireplace, player piano, library, and fish tank. Teachers use the shared space as an extension of their classrooms, and there is virtually nothing that goes on in a classroom that could not be shifted to the shared space or vice versa. (p. 18)

(See the Lamplighter School, the Casady School, and the KLH Center, appendix.)

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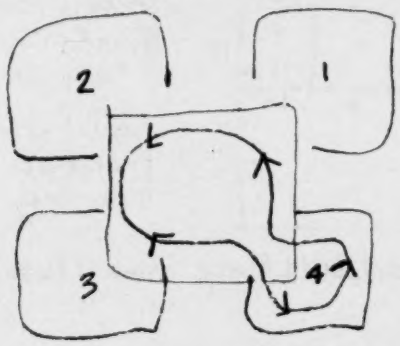

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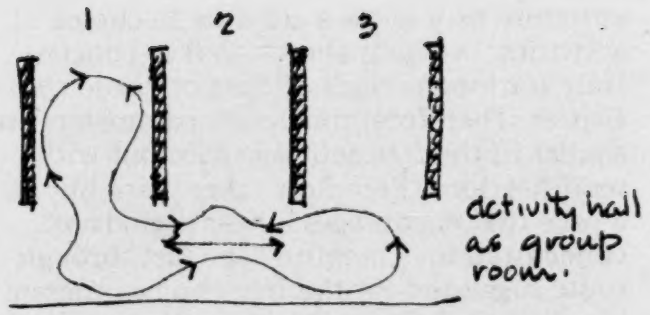
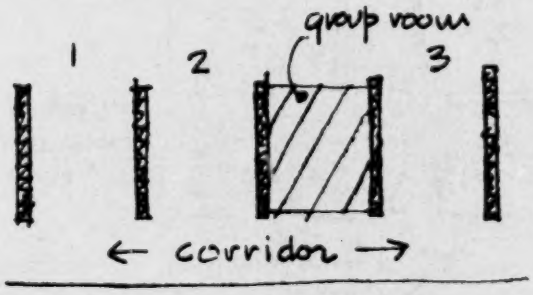


No. 33

And from Hertzberger (1968):

The hall space is the street onto which all the classrooms and general facilities are grouped. Here perhaps the most important part of the school life is centered. The hall is the big communal 'classroom' the complementary form and extension of the classroom element taken as a whole. (p. 58)



No. 34

Diagram No. 34: A multipurpose room placed along a corridor connecting several closed group play environments. This scheme limits the spontaneous use of the multi-use space but it may be a viable compromise in a low budget project when a room of this kind is also needed for community meetings, staff lounge, etc.

(See Phoebe Hearst Preschool Learning Center, appendix.)

Places to Pause for Awhile

It has been observed that children and animals, when involved in natural play, will take a break from time to time and go "off duty." It is felt that these break periods are a means to reduce excitement, to keep a child "on a relatively even keel" at a time when his "steady state mechanisms are as yet insufficiently developed" (Millar, 1968, p. 255). Millar further points out that this excitement reduction may involve carrying about a favorite toy, repetitive rocking, thumb sucking, or crawling into enclosed spaces. Hartley, *et al.* (1964) found that these breaks can also occur in the middle of a specific activity, i.e., water may be aimlessly stirred, sand patted, and clay squeezed.

As designers, we are concerned with the role of the physical environment as a spatial prop for these pauses. Besides "enclosure" we will attempt to articulate other illusive qualities that children seem to like when choosing a place to pause for awhile. These places can be generally characterized as not obvious, multipurpose, and having a "found" quality. Aldo van Eyke (1968B) has mused on the special qualities of similar places within the fabric of the city:

What the child needs is something more permanent—if less abundant—than snow: something quite unlike snow, incidentally, but which the city can also absorb without losing what remains of its identity—something intended for the child to discover by himself as his own, though it is not entirely different from incidental places, things and materials that serve totally different purposes; something which the child adapts in its own way to its imaginative life; something elementary which is placed where there is still room for it to attract the child from darkness and danger into light and greater safety. (pp. 39-40)

In a program that stresses free activity choice for the children, a pause can be taken at any time, but in a highly structured teacher-taught program a pause can only be taken during scheduled "recess" periods. It also seems to follow that a full-day program will have a greater need for these places to pause than a half-day program. The children in a free choice program will automatically search out these places as the day wears on, and the structured program will need more recesses to keep the children's attention.

Once these places are articulated, they will also be utilized by the children in conjunction with other children (social play) and as spatial props for make-believe play (Pattern No. 20).

Small Enclosed Spaces

As we mentioned above, crawling into enclosed spaces is a common tendency of children during natural play. Landreth & Moise (1949, p. 82) suggest that this tendency could be a vestige of the prenatal environment which was close fitting. Moore (1966) found that the amount of enclosure needed was not absolute—that a *sense* of privacy was desired rather than total physical isolation. This will allow the designer to fulfill the requirements of Pattern No. 4 for teacher supervision of the children's activities.

r Awhile

Pattern 10

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According to Millar (1968, p. 181) the size of a preschool play group is from two to four children. Therefore, these enclosures should provide a variety of spaces housing from one up to four children.

These enclosures can be produced by the children with blocks, cardboard boxes, or furniture; they can be provided in the form of movable furniture-like elements placed throughout the group play environment, or they can be permanent elements built into the building fabric or the outdoor terrain. These enclosures may also become available when various storage elements are empty of their contents.

In-Between Places

We are making a distinction between spaces that enclose the children but allow a teacher to see in and spaces which have a sense of place (enclosure or definition) and yet allow the children a chance to see out, i.e., an in-between place. From Hole (1966):

The most striking feature elicited by observation was the amount of 'inactive' play. This implies the provision of much more seating on the playground, not of the park bench type, but in a form which would enable a group of children to cluster together. It was noted during the observations that smaller children often used doorways or houses for sitting or playing imaginative games; this suggests a design for grouped seating with the sense of intimacy and shelter which a doorway can afford. (p. 37)

This view to the outside is not primary but only forms a peripheral overlap with the

adjacent activities (awareness of what is going on). Therefore, all places in a building that form a transition from one element to another should be recognized for their potential for becoming places to "linger" or to gather, i.e., windows, doors, doorsteps, steps, columns, a corner, the base of a tree. These in-between places can also be created by the teacher with the placement of floor pillows, hassocks, chairs, and benches in locations where by themselves or in conjunction with other elements they create a place to pause for awhile. From van Eyke (1968A):

Is he able to find the right place for the right occasion?
Is he able to linger?
No, so start with this; articulate the in-between

Places to Watch From

These spaces are characterized by being in a location overlooking an activity that allows audience viewing. In-between places have a view to the outside but it is one of peripheral awareness rather than direct viewing, although these two elements of viewing and in-betweenness can be combined, e.g., a window seat overlooking the street.

These watching places can be for viewers who are somewhat distant from the activity and prefer only watching, or they can be places close to the activity which allow social interchange between those playing and those watching (Moore, 1966, pp. 121-122). Hole (1966) found that this watching activity was quite prevalent on playgrounds in English housing estates:

A detailed analysis of data obtained from interval sampling showed that, consistently, for all items of equipment on playgrounds, the maximum number of children grouped around a piece of equipment was equal to or greater than the maximum number who were using the equipment at any given time. The apparatus thus serves as a focus fo groupings. (p. 20)

A watching place can be built indoor and outdoor play environ the form of trees, windows, and h they can be secondary aspects of equipment, i.e., climbing frames, stairs, playhouses; or they can be the teacher and the children with pillows, stools, or a moving tricyc

Places of Interest

Children will be attracted to e within the environment that have of delight and constant change. T tend to be objects that become "e Children will pause at these places or participate depending on the d the event.

A teacher can place these poi terest throughout the group play ment in the form of mirrors, shell tain the sound of the sea, a fish ta and the architect can build these the building fabric. Coles (1969) this comment from a small child:

. . . .and most of all, really most o window in the roof so you could up and see the sky and the clouds sun and when the rain falls you c falling and you'd like it better, be school.

And from Skutch (1969):

Woven into the very structure of are a number of learning opportu way the roof sheds water after rai hidden gutters and silently slinkin into the ground, but rather in swe that noisily spurt away from the f ners and spill into graveled pits de this purpose alone. Rainy days ar ville when you can look out the w four waterfalls and maybe spend s

apparatus thus serves as a focus for social groupings. (p. 20)

A watching place can be built into the indoor and outdoor play environments in the form of trees, windows, and high places; they can be secondary aspects of large-scale equipment, i.e., climbing frames, movable stairs, playhouses; or they can be created by the teacher and the children with throw rugs, pillows, stools, or a moving tricycle.

Places of Interest

Children will be attracted to elements within the environment that have a quality of delight and constant change. These places tend to be objects that become "events." Children will pause at these places and watch or participate depending on the demands of the event.

A teacher can place these points of interest throughout the group play environment in the form of mirrors, shells that contain the sound of the sea, a fish tank, etc.; and the architect can build these events into the building fabric. Coles (1969) received this comment from a small child:

. . . .and most of all, really most of all, a window in the roof so you could just look up and see the sky and the clouds and the sun and when the rain falls you could see it falling and you'd like it better, being in school.

And from Skutch (1969):

Woven into the very structure of our school are a number of learning opportunities: the way the roof sheds water after rain, not into hidden gutters and silently slinking down into the ground, but rather in sweeping arcs that noisily spurt away from the four corners and spill into graveled pits designed for this purpose alone. Rainy days are not Dullsville when you can look out the windows at four waterfalls and maybe spend some time wading in the dry wells when you think no one is looking.

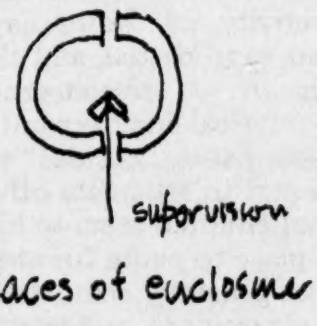
These elements can also be built into the building at a very *small* scale since children are attacted to detail. From Millar (1968):

It seems likely that human infants, like young chimpanzees, are attracted by small objects, especially if they are shiny irregularities on a surface. Bits of fluff on a dress, crumbs on their plate, small shiny stones, spots on their skin, etc., are almost invariably picked at or picked up. (pp. 127-128)

From van Eyke (1968):

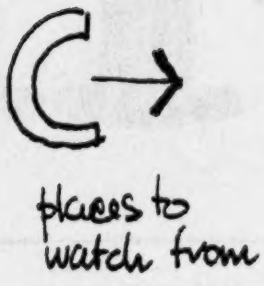
Since concrete, stone and timber do not sparkle, and something always should, small bits of mirror were embedded in stone slabs in each department. Cheap jewels . . . but jewels!

In summary, we have:



No. 1

No. 2



No. 3

No. 4

These diagrams can be manipulated to su
gest potential design solutions, e.g.,

· a mirror placed in the floor of a playho

diagrams can be manipulated to sug-
otential design solutions, e.g.,

enclosure plus an interest point

rror placed in the floor of a playhouse

· a small area of water placed in a circle of shrubbery

· a fish tank surrounded by pillows.

Presentation and Storage of Play Materials

Open Storage

A program having periods when the children can choose their own activities should have materials available at a correct height for viewing and reaching (convenience) and materials displayed to encourage use (presentation) (Pattern No. 4). Programs that limit the availability of play materials will be discussed under *Closed Storage*.

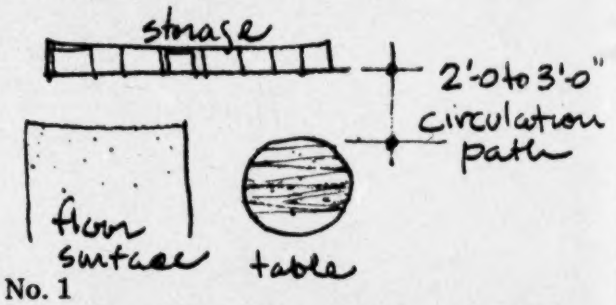
Convenience of Materials—To make play materials accessible to the children, the storage shelving should have the following dimensions: Maximum *shelf* height, age 2.0 to 3.0 years—2'-11", age 3.0 to 4.0 years—3'-1", and age 4.0 to 5.0 years—3'-3" (Ramsey and Sleeper, 5th ed.). A program that mixes children of different age levels will need a single in-between height of 3'-0" for shelving and a height of 22" for a storage unit that will also act as a stand-up work surface.

Presentation of Materials—The presentation of materials to encourage use has a number of parameters. First the items should be displayed so they can be clearly distinguished from adjacent items. This has been found to be a useful device for all children (EFL, 1970B, p. 6; Powledge, 1967, p. 52), but especially valuable to disadvantaged children. Dr. J. Kagan presents this view (Pines, 1966):

It follows that what is often termed 'enrichment'. . .a hodge podge of things to see, touch and hear in an overstuffed classroom. . . is largely useless to slum children. Instead, said Kagan, people who plan such programs should provide single, distinctive stimuli to be presented in a context of quiet. Culturally disadvantaged children are not deprived of stimulation, they are deprived of distinctive stimulation. (p. 180)

This distinctness can be accomplished by separating the items with space, with shelf separators or by contrasting qualities (see examples).

Another means to suggest use is to provide work space adjacent to a stored item. (Landreth and Moise, 1949). This work space should be at a variety of working levels (Patterns No. 9 and No. 12), and can be adjacent to fixed shelving or *available* to movable storage units. In either case the work space when occupied with children should not block access to the storage units (Kellogg, 1949, p. 130) (Diagram No. 1).



No. 1

Nancy Rambusch feels that not only should work space be available at different heights, but that this space should have a structure that suggests "beginnings" to the children (see Pattern No. 9). An example is the block area of her school (Diagram No. 2) in which she has constructed a variety of surfaces at different heights and with various posture potentials (see Child Minder School, appendix).

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Pattern 11

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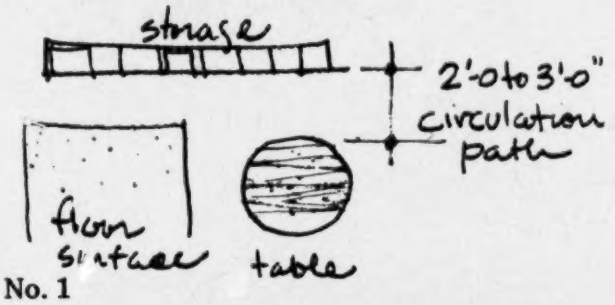

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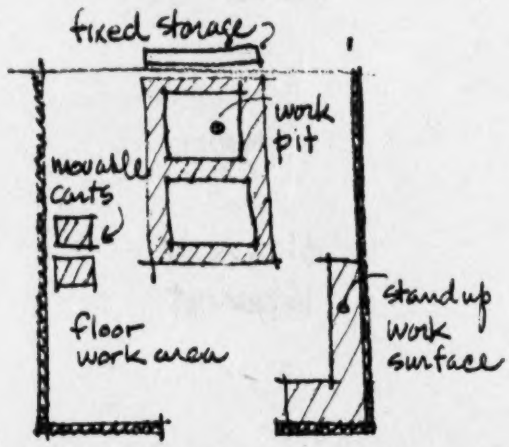


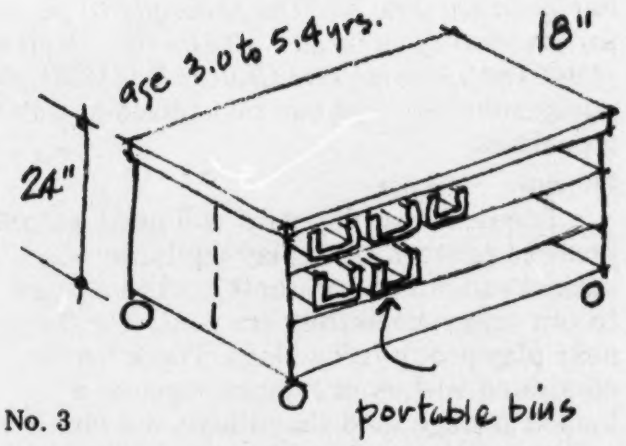
No. 2

But to insure that the stored items are always convenient and "distinctly" presented to the children, they must be returned to their original condition for each new group of children. Mrs. Rambusch calls this "recycling" a space. The children can help the teachers with this work but they should not be forced to do so. From Kellogg (1949):

The child under six is not orderly. He has so many difficult lessons to learn, that to stress the problem of picking up after himself may produce nervous tensions that far outweigh the value of the training in orderliness. Moreover, a little later on, precision and order can become fascinating and satisfying achievements if they have not been imposed too early. (p. 131)

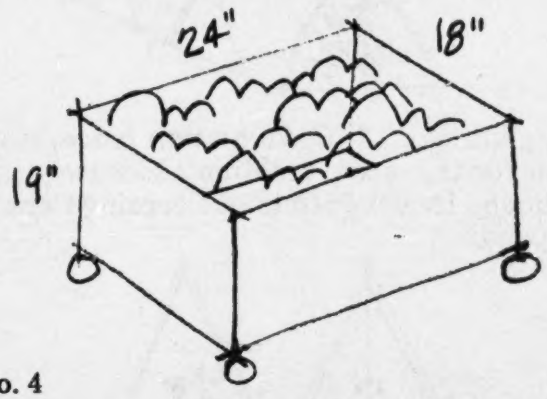
Example Solutions

Diagram No. 3: Combination *portable storage units* and work tops developed for the Eveline Lowe Primary School (Department of Education and Science, 1967A, pp. 64-65).



No. 3

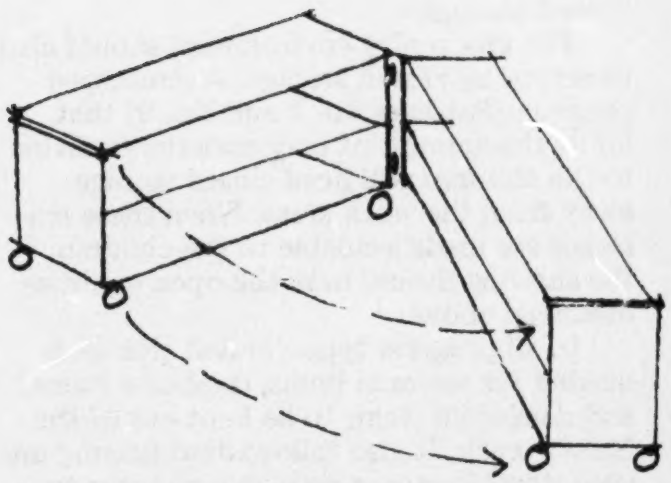
These units can be brought directly to the spot they will serve and can be moved if the work area expands. Stored items can be made available from both sides of the unit. (See open-plan solution, Pattern No. 9 for their use in the group play environment.)



No. 4

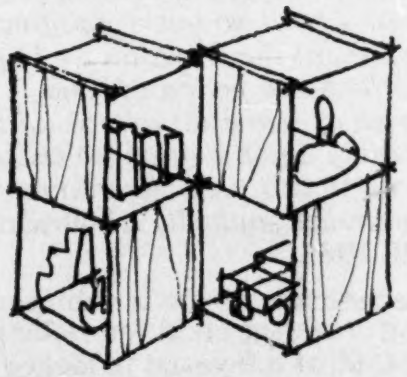
Diagram No. 4: Portable bins can be stored in a corner or under a specially designed cupboard unit (*ibid.*, p. 65). Items stored in a bin should be of a similar kind, otherwise the material at the bottom would not "suggest" use.

Diagram No. 5: A hinged movable storage unit for use when materials need to be in closed storage between periods of use.



No. 5

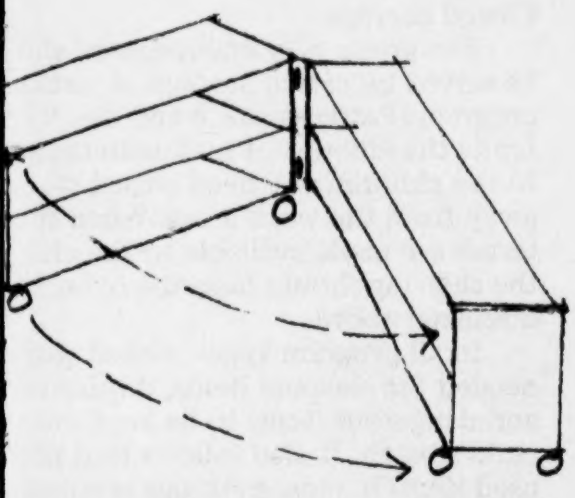
Semi-portable storage devices can be left in place but can also be rearranged with a minimum of effort (Diagrams No. 6, 7, and 8).



No. 6

Diagram No. 6: Storage boxes that can be stacked in various configurations and used as work tops. The items displayed can be given distinctness by an alternate placement of closed and open areas.*

*Designed by F. Osmon, S. Nicholson, and G. Nimnicht for an experimental "toy library"—Far West Laboratory for Educational Research and Development.



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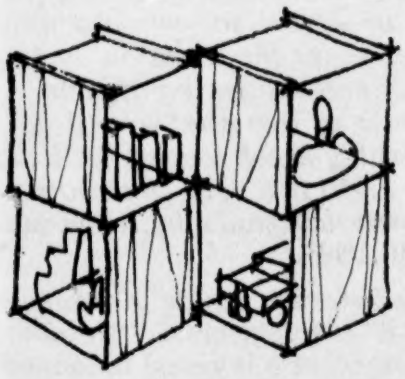

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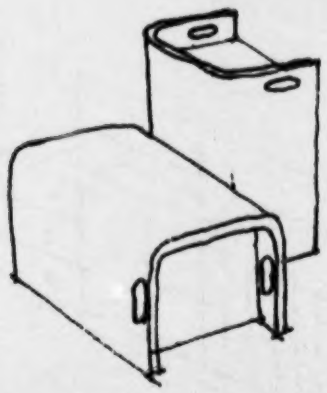
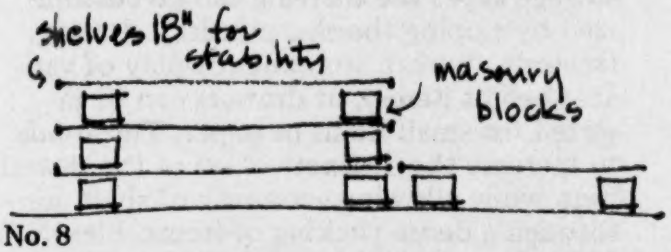


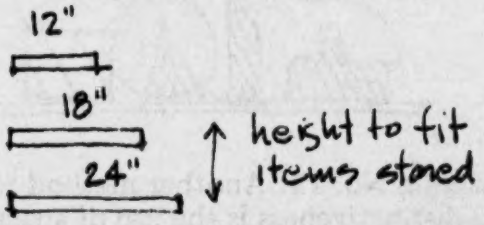
No. 7

Diagram No. 7: Rosta boxes—a stacking unit designed for the Eveline Lowe Primary School (*ibid.*, p. 65). These boxes are used as work tops, seats, tables, and storage units.



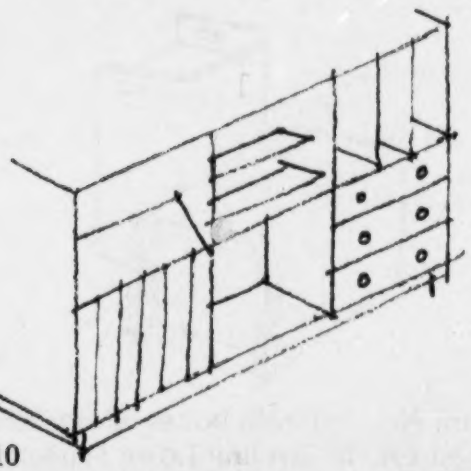
No. 8

Diagram No. 8: Wood shelving attached to masonry units with high strength glue. Shelves are permanent but can be easily demounted and rearranged in different configurations. (The Early Learning Center, Stamford, Connecticut; EFL, 1970B, p. 6).



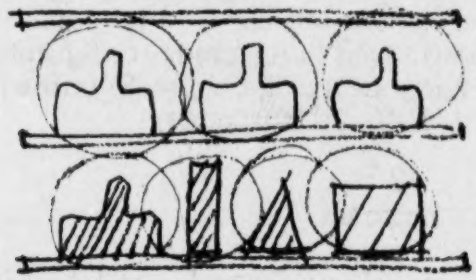
No. 9

Diagram No. 9: Fixed multipurpose wall storage can be either fixed shelving or adjustable shelving and can be all of one width and height or contain a variety of dimensions. A horizontal span of 3/4" shelving should be placed on 3'-0" centers to prevent sagging.



No. 10

Diagram No. 10: Within any of the above storage types the shelving can be customized by sloping (books, puzzles), slotting (records, books), stepping (display of variable height items), or drawers can be inserted for small items or paper. This tends to increase the distinctiveness of the stored item while allowing economy of shelf use through a dense packing of items. Flexibility of shelf use is sacrificed for this careful fitting of items to storage space.



No. 11

Diagram No. 11: Another method for gaining distinctiveness is the use of space separation and contrast between adjacent items. If these two qualities are combined, the amount of space between items can be reduced by placing items with contrasting qualities next to one another, i.e., size, color, shape, etc.

Closed Storage

The group play environment should also be served by *closed* storage. A structured program (Patterns No. 3 and No. 9) that limits the amount of play material available to the children will need closed storage away from the work areas. When these materials *are* made available to the children, the shelving should have the open qualities discussed above.

In all program types, closed storage is needed for seasonal items, duplicate items, and dangerous items to be kept out of the child's reach. It also follows that placing unused items in closed storage is a means to increase the distinctiveness of items on display (less clutter), and it can also reduce the amount of stimulus to a child when he is first introduced to the play room.

We are also well aware that this wide variety of materials is too overwhelming for the first day of school, so our classrooms more nearly represent the situation we hope to achieve after some period of time. . . perhaps a week or two after school starts, but quite possibly much longer. We visualize building up to this total classroom by introducing materials gradually. (Leitman and Churchill, 1966)

Closed storage can be in cabinets starting at 4′-6″ (average child "stretching" reach is about 4′-0″ at 5.0 years) in locked cabinets or in walk-in storage rooms with knobs at teacher height (4′-0″).

As mentioned in Pattern No. 9, we are giving only sketchy guidelines for the size of the activity centers and for the amount of lineal storage at these centers. These items are too variable and should be developed by the local design team. *The amount of lineal storage should be developed by considering the materials to be made available to the children, the amount to be kept out of reach*

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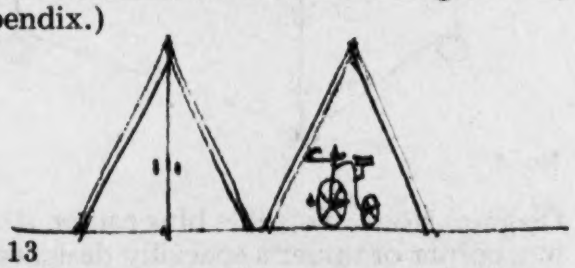
Outdoor Storage

The outdoor play yard will need a storage place to protect loose play equipment against vandalism and theft, and as a place to put things until they are ready for the next play group (recycling). These needs combined with convenience suggests a locked storage shed that allows the children to remove the items without teacher assistance (trikes, outdoor blocks, swing seats, balls, etc.).

Suggested Solutions

No. 12

Diagram No. 12: Combination fence, storage unit for trikes and children's hideaway place. (Phoebe Hearst Preschool Learning Center, appendix.)



No. 13

Diagram No. 13: Separate trike storage units —Kuasi Park Playground—Alameda, California (Lederman and Trachsel, 1968, p. 103).

Diagram No. 14: Movable storage bins parked in a storage shed with a child-scaled door.

No. 14

Temporary Storage

Some Centers allow children to carry over an unfinished construction from one play period to another or from one day to the next day (Hartley, *et al.*, 1964). Small items do not produce a storage problem since they can be placed on a shelf or work top. But large constructions are usually not mov-

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able and will need protection at the point of "making." This will only be possible in a Center that is not pressed for space. The unfinished item can be protected with movable dividers or storage units (flexible space scheme) or by providing a number of work areas for each activity thereby allowing the temporary closure of one area.

The Floor as a Walking Surface/as Furniture

The following tendencies must be considered when designing the floor for the group play environment (Patterns No. 14 and No. 35 consider flooring surfaces in other areas of the Children's Center).

a) Children like to sit and play on the floor (Waechter and Waechter, 1951, p. 137).
b) A playroom floor must accommodate an unusual amount of liquid, both from play activities and from uncontrolled bodily functions.
c) Children's motor coordination is developing during the preschool period and and they are accident prone (Landreth and Moise, 1949, p. 79).
d) Teachers and parents are concerned about germs passing from one child to another through physical objects (Leeper, *et al.*, 1968).
e) Teachers do not want children getting colds from sitting on a cold, damp surface.
f) An excessive amount of furniture can hinder the free flow of children (EFL, 1970B, p. 17).
g) Noise from one activity can be disruptive to other activities in the group play environment (Pattern No. 9).

These tendencies imply the following design criteria for the flooring surface:

1. It must be free of drafts and warm to the touch, to minimize the potential for colds and to maximize the child's comfort when playing on the floor.
2. It should be easily maintained to minimize slipping hazards and to minimize germ retention.
3. It should be resilient to minim
dents from falls and to minimi
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4. It should be designed with a m
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5. It should be considered for its
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A radiantly heated floor slab
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An air lock or a hot air curtai

*The Early Learning Center in Sta
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Pattern 12

3. It should be resilient to minimize accidents from falls and to minimize the floor as a sound-producing element.
4. It should be designed with a minimum of change of level along major circulation paths to eliminate places to stumble.
5. It should be considered for its potential as work/play surface to minimize the clutter of furniture and maximize the number of play/work postures.

Before considering the flooring surface, the underlying floor *construction and heating system* must be determined. Any floor construction or heating system can be utilized but the combined result should be a floor that is free of drafts and reasonably warm to the touch since the flooring *surface* cannot eliminate either drafts or a damp floor.

A radiantly heated floor slab has been considered by many designers and engineers to be the ideal answer to this problem. But in practice these floors have sometimes turned out to be both fatiguing to the occupants and unable to eliminate floor drafts without a perimeter wall system.*

An air lock or a hot air curtain may be required in a cold climate to eliminate floor drafts from open doors.

After determining the floor construction and the heating system, the *flooring surface* can then be considered. The most prevalent materials found in Children's Centers are resilient flooring and carpet.

Resilient Flooring

The most popular material in this category is vinyl asbestos tile. This material is slippery when wet but each spill can be quickly removed. This instant removal plus a mopdown each evening will prevent germ retention. The relatively firm surface (as compared to carpet) allows the easy movement of furniture and storage units (flexibility), but at the same time produces more noise during this movement than a carpeted surface.

This flooring is called "resilient" but is less giving than carpet. Vinyl tile or sheeting is more resilient than vinyl asbestos tile but more expensive. Cushion-backed vinyl has maximum resiliency for this type of material but is another step up in cost.

Another variation is the new seamless flooring (binder plus granules) which is applied as a liquid and then hardens to form a floor similar to the cushion vinyls. The speckled plastic surface hides scuff marks, which are a problem with vinyl tiles especially in light colors; the seamless surface prevents dirt and germ retention and cleans easily. The Early Learning Center (EFL, 1970B) has a surface of this material in its wet areas, and it has proven quite satisfactory.

English Children's Centers use extensive amounts of linoleum flooring, which has ex-

*The Early Learning Center in Stamford, Connecticut, does not use its radiant slab. It relies instead on its supplementary perimeter system. The teachers found the underfloor heat to be excessively fatiguing. This does not eliminate this system as a potential floor but only points out one of its limitations that must be considered when comparing heating systems.

cellent resiliency and sound absorbing qualities but is easily dented from heavy objects or blows.

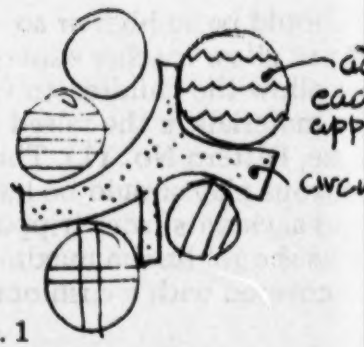
Carpet

Carpet is obviously superior to resilient flooring in terms of tactility and softness. It minimizes injuries from falls and is quite comfortable as a sitting, playing surface. It also has excellent sound absorbing qualities and does not generate noise when furniture and toys are moved along its surface. This is particularly useful in open-space planning (Pattern No. 9).

But spills and germ retention can be a problem. Teachers do not mind removing a spill on a resilient floor but will not get out the carpet cleaner after each spill. Since many Centers do not have nightly janitorial service for rug shampooing, the spill has a chance to "set," leading to a permanent stain, depending on the liquid and the carpet. A spill, if shampooed during the daily program, will leave a wet spot for several hours, producing an area which is unusable for sitting. The carpet underlayment or backing should also be considered for its potential for retaining dampness and germs. The retention of static electricity is also a consideration when choosing a carpet.

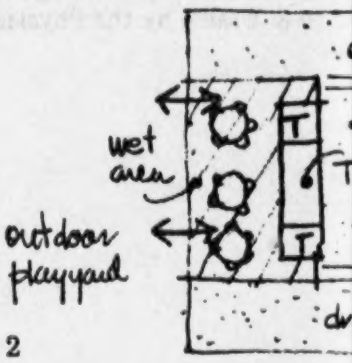
In view of the advantages and disadvantages of these materials, it follows that the flooring surface should be chosen to fulfill the needs of a *particular* indoor activity (Diagram No. 1).* Compatible activities having similar flooring needs can be grouped together to give more multi-use potential to an area, i.e., wet rugged use area/with resilient tile; passive or noisy but not wet/with

*The installed cost, the service life, the maintenance cost, and the total user costs are technical ways to compare flooring materials which should be explored by the local design team.



No. 1

carpet. (See Casady School & Children's Center in appendi grams No. 2 & 3.)



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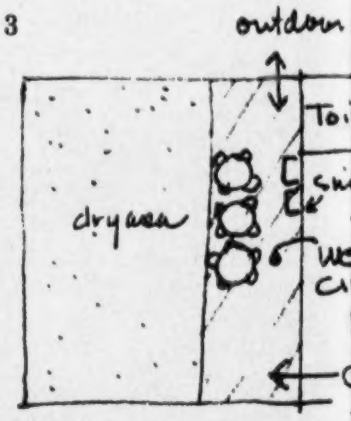
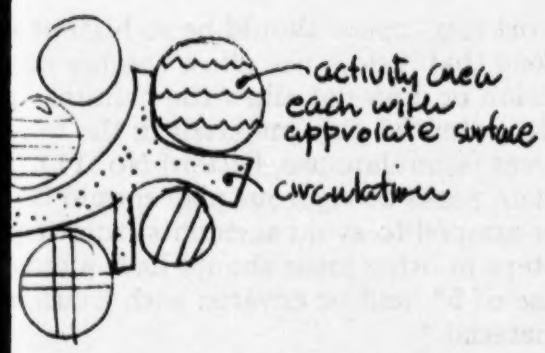


The Floor as Furniture or F Floor

If children use the floor surface, then they are in fac substitute for tables and cha using it as furniture. To ext



t. (See Casady School and Bellehaven
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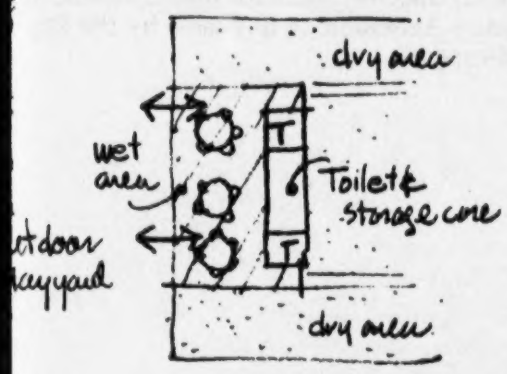

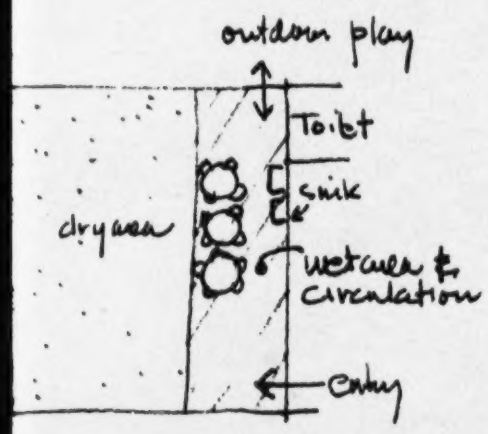

Floor as Furniture or Furniture as a

f children use the floor as a play/work
ce, then they are in fact making it a
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it as furniture. To extend this use of
the floor, some designers and educators have begun to manipulate the floor to create a new kind of built-in furniture. EFL (1970B) describes The Early Learning Center:

A table plus chair plus a child equals 10 legs. Multiply that number of tables, chairs, and children in a conventional classroom and the decapod becomes a thicket of multipedal inhibitors. Furniture is therefore kept to a minimum in the Early Learning Center. Wall-to-wall acrylic carpet, which deadens noise and encourages children to sit, stand, or sprawl wherever they please, is a key factor in the design for unencumbered simplicity. The "forum," an 8 by 12 ft. sunken arena, eliminates the necessity for chair grouping. It is an uncluttered gathering place, a conversation pit, or a shape for conferences. (See floor plan, appendix)

The above example and the "wells" in the Lamplighter School (appendix) are "sunken" areas in the floor but other Centers have gone in the opposite direction and have created "raised" floor areas. The Child Minders School in Greenwich, Connecticut, has created a variety of raised work/play platforms (Patterns No. 8 and No. 18). By carrying the carpet up and over these platforms, an extension of the floor has been created. The director, Mrs. Rambusch, feels these "places" are a big improvement over tables and chairs since they allow only a single posture, while her environments allow the child to explore the task at hand in many postures. She comments (conversation, 1970):

If there are many acceptable surfaces on which to work, squat, kneel, stand, lie down, then the focus will be on the business at hand, not on the arbitrarily designed posture for a task.

This manipulation of the floor plane is part of her larger goal of programming the en-

vironment as an "event" rather than as an "object" and in line with her desire to create a non-school with non-teachers and non-furniture (*ibid.*, 1970) (see initial discussion, Pattern No. 9 and also Pattern No. 11).

To facilitate the use of the floor as a work surface, electrical outlets should be placed at intervals for portable lamps and electronic teaching equipment.

The creation of raised and lowered areas should not be so extensive that it eliminates the flat, open area required by the group multi-use area (Pattern No. 9). The manipulation of the floor is further limited by the need for safe paths of circulation and the need for teacher supervision. Therefore no work/play space should be so high or deep that it does not allow teacher su vision or does not allow the children the potential play materials in the rai areas (stimulate use, Pattern No. 11). main paths of vigorous play should b or ramped to avoid accidents from tri Steps in other areas should have a ma rise of 5", and be covered with a cush material.*

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work/play space should be so high or so deep that it does not allow teacher supervision or does not allow the children to view the potential play materials in the raised areas (stimulate use, Pattern No. 11). The main paths of vigorous play should be level or ramped to avoid accidents from tripping. Steps in other areas should have a maximum rise of 5", and be covered with a cushioning material.*

*Centers housing handicapped children should provide special ramps. For guidelines use USA Standard Specifications for Making Buildings & Facilities Accessible to & Usable by the Physically Handicapped.

The multilevel structures created by Community Learning Centers, Inc., for the telephone company's day care center in Washington, D.C., are midway between being a room and an extended floor. However, all levels have adult supervision, and most changes in levels do not exceed about 2 ft.

There is also a counter-movement to make furniture into a more multipurpose item. Pillows, hassocks, and the new soft furniture invite the user to position himself in many ways. Other large-scale environmental furniture includes a movable version of the floor structures discussed above (St. Louis, 1970).

A Child's Personal Possessions

Outer Garments

The child needs a place to store his outer garments that he wears to and from school. To minimize the amount of water and snow that is brought across the floor on the children's shoes and coats, the garment storage area should be placed near the entry to the group play environment (Pattern No. 8). This floor path should be easy to maintain and slip-proof when covered with water, sand, and mud.

It should be emphasized that the lockers should be off the entryway, not in it. EFL (1970A) describes the difficulties that arise when this separation is not made:

The entryway contains clothing hooks and cubbies for the children and benches for adults but it is little more than a corridor. The result is that on rainy days the area is strewn with children and adults trying to fit on boots, rubbers, coats, and sweaters. It is virtually impossible to get in or out without stepping on somebody. (p. 6) (Floor plan, H. Jones Child Study Center, appendix.)

The child may also need to put on his outer garments when he goes outdoors to play. Therefore, the garment storage area should be accessible from the outdoor play yard without disrupting the activities in the group play environment.*

The garment storage area should be in view of the teachers in the group play environment so they can provide help to the children when it is needed. Since there are several teachers spread equally throughout the play area (Pattern No. 9), the locker area will not need visual access from all parts of the group area.

The children also like to manipulate their personal possessions throughout the day. If these possessions are stored apart from the garment area, there will be fewer trips to that area and less need for supervision. Some teachers like to separate the garment storage from the group play area since they feel it is unsightly and does not contribute to the activities in the group area.

Possible Coat Storage Positions

Diagram No. 1: Garment storage can be located in several places in the group play area:

a. against the wall (Bing Nursery School, appendix);
b. free standing;
c. in an alcove (Unit Plan, appendix).

Diagram No. 2: Garment storage as a separate but open room, located so at least one teacher in the group area is in a position to view into the storage area. Personal possessions are stored with the coats or in the

*Margaret Skutch, the director of The Early Learning Center in Stamford, Connecticut, feels that there cannot be a solution to the garment storage problem until children's coats and snow suits are redesigned. She has found that there seems to be no way to keep those bulky items "hung up" and no way to quickly dry them out (including the solutions shown in this pattern). She would buy lightweight, waterproof play garments for her school if they were available.

Pattern 13

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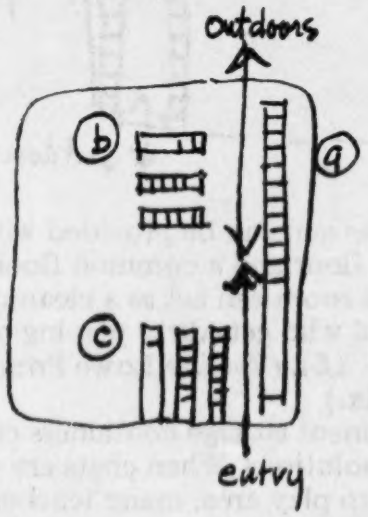
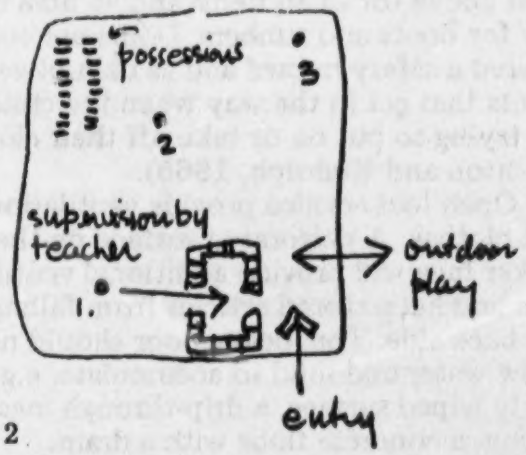


No. 1



No. 2

group play area (Child Minders School, appendix).

Diagram No. 3: Garment storage in the toilet area facilitates toileting after removal of outdoor wraps (typical routine). Both areas are

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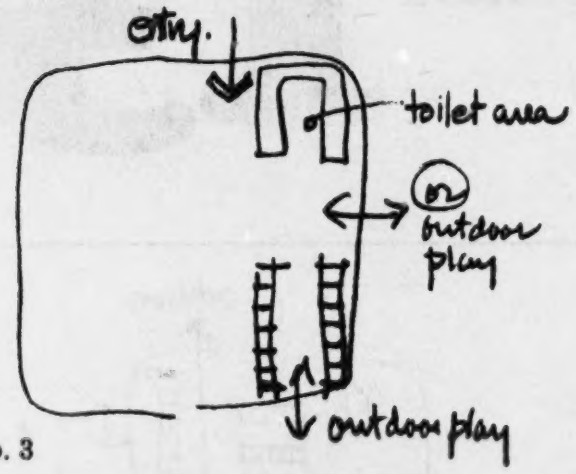


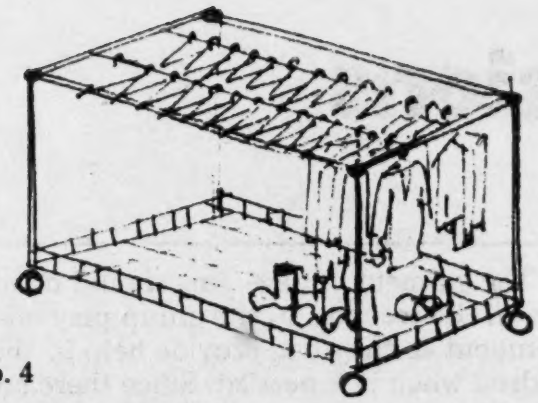
No. 3

wet areas and can be provided with an easy-to-mop floor and a common floor drain. The garment room can act as a cleanup area for the child who gets dirty playing outside (Pattern No. 15). (Eveline Lowe Primary School, appendix.)

Garment storage containers can have several solutions. When coats are stored in the group play area, many teachers prefer individual open lockers with coat hooks, a shelf above for small items and an area below for boots and rubbers. Doors are considered a safety hazard and as disruptive elements that get in the way when the children are trying to put on or take off their clothes (Stanton and Rudolph, 1965).

Open lockers also provide ventilation for wet clothes. A perforated surface on the rear locker face will provide additional ventilation and keep stored articles from falling out the back side. The locker floor should not allow water and mud to accumulate, e.g., an easily wiped surface, a drip-through mesh screen, a concrete floor with a drain.

Some designers and educators prefer group coat storage because they feel there is better ventilation for the hanging coats without separators between them. Diagram No. 4 shows a group "trolley" locker developed for the Eveline Lowe Primary



No. 4

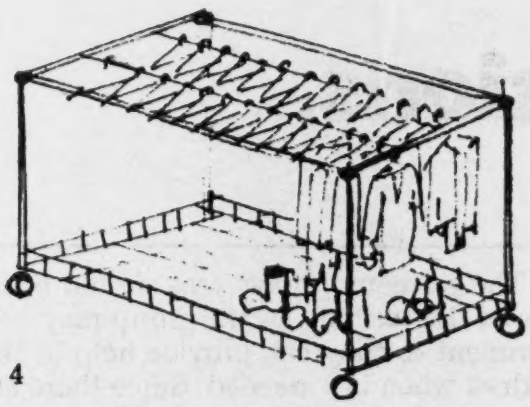
School (Department of Education and Science, 1967A, p. 67). It is movable, has a metal frame, and the coats are hung on hangers. The trolley is stored against the wall when not in use but accessible from both sides when pulled away from the wall.

Seating should be provided in the coat area to assist a child in putting on his boots. This seat can be in the form of a step attached to the locker 6" to 11" high, a low sitting platform in the center of the area, 6" to 10" high, or stools scattered throughout the area 10" in height.

Personal Possessions

Children's Centers in the United States stress a sense of personal property in contrast to the Soviet nursery school which stresses communal property (Quail, 1965). From Loeffler (1967):

Although the child in such a school will not have an individual desk, it is important that individual storage be provided for such items as personalized name stamp, a comb, the child's own work, and other miscellaneous items which are the child's own property rather than things to be shared with the school community. This sense of personal property, while important to all young children, gains an added value for those who have few personal possessions outside the school. (p. 9)



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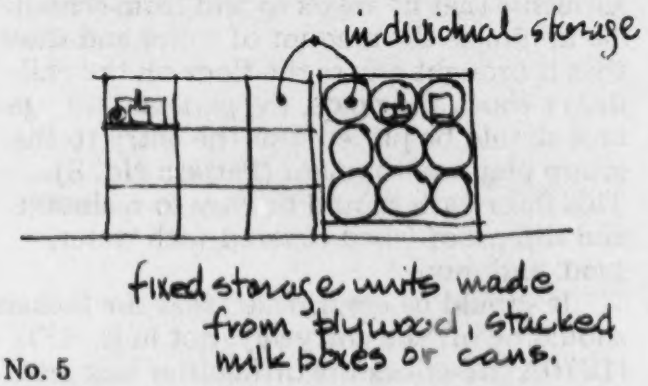
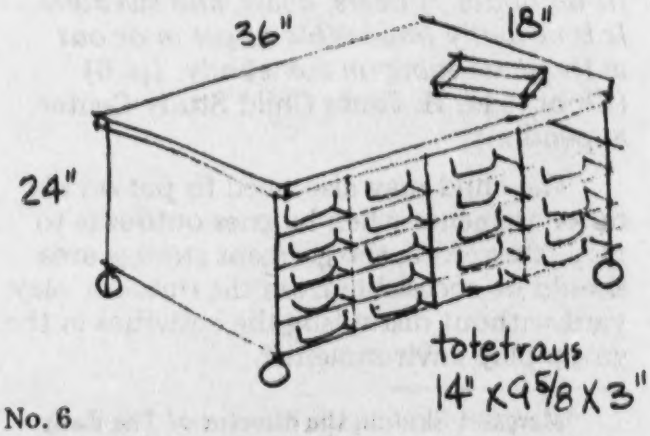
Loeffler (1968) goes on to recommend plastic "tote" trays (7" × 8" × 15") for these personal possessions. Other programs on a limited budget can fulfill the same need with a cardboard shoe box. Although portability gives added dimension to the "personal" quality, many teachers feel that the high incidence of spilled trays outweighs this feature, and they prefer fixed storage (Diagram No. 5).



No. 5

The Eveline Lowe Primary School has a unique solution that provides both portable trays and portable storage cupboards for them, for use in open areas without any under-counter storage.



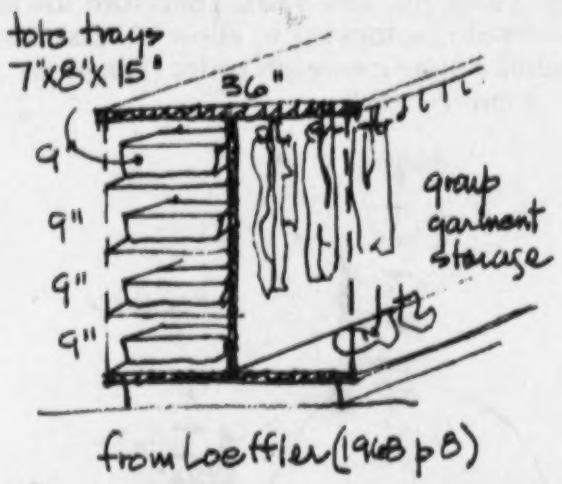
No. 6

(Diagram No. 6) (Department of Education and Science, 1967A, p. 64). A Center that has

both morning and afternoon sessions will need a double supply of storage boxes.

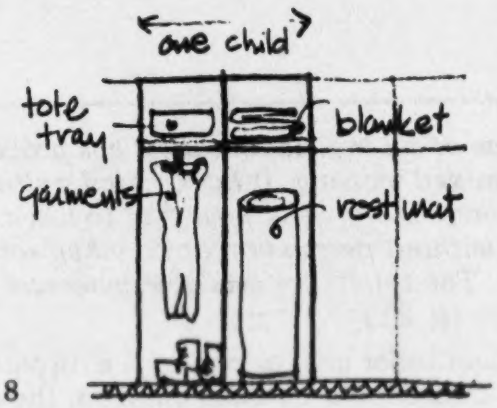
Napping Linen

Blanket, pillow, and linen storage will be needed for a program that includes napping. Some teachers like to store these items individually and at child height so the child can assist in preparing his napping place. Others keep these items stored within the teacher's realm. In either case, these linens can be kept in the garment area or they can be stored along with the cots in the napping area (Pattern No. 27).



No. 7

From this discussion we can see that various combinations are possible. Garments, personal possessions, and napping linen can all be stored separately, or garments and personal possessions can be stored together and the linen stored separately, or garments and linen stored together and possessions separately, or all three items can be stored together. Some educators feel that putting everything together in one location gives an added emphasis to personal possessions by creating a "sense of place."*



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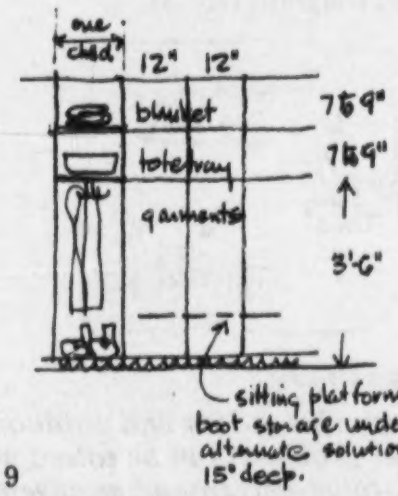

No. 9

*Another possibility is the use of personal "nests" for each child—a place that combines personal storage with a permanent napping place and a personal work area. The idea is rejected due to its extreme space demands and potential conflict with the home environment.

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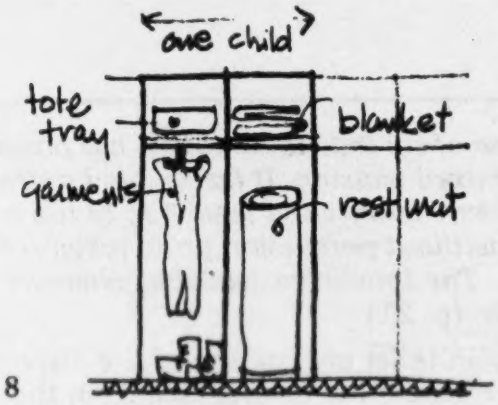

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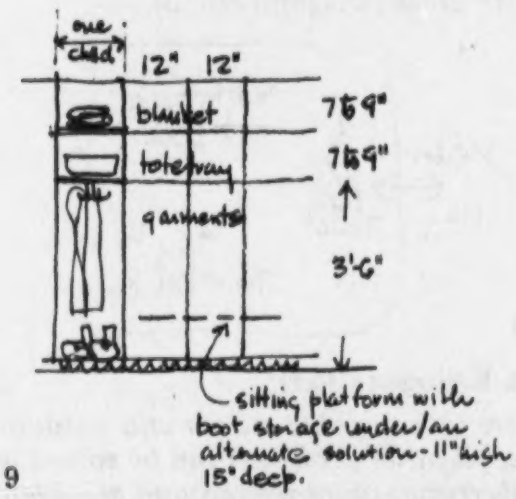

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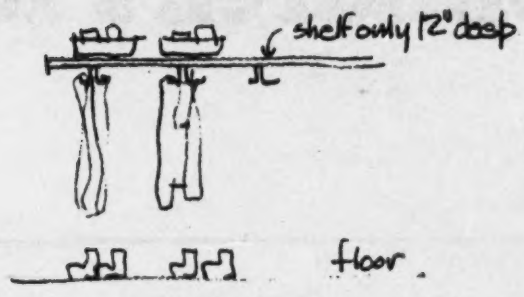
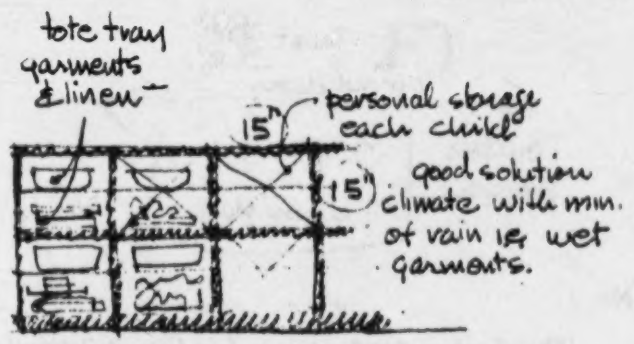


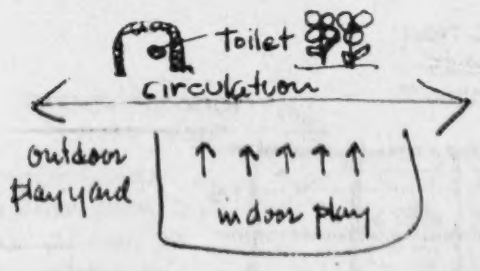


No. 10

The use of symbols, name tags, and photos is utilized by some Centers, especially in disadvantaged areas, to give further emphasis to personal possessions. From Powledge (1967):

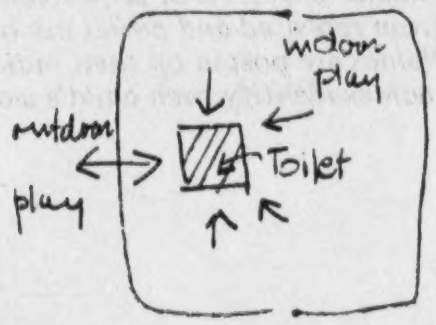
The children's names are prominent in an enrichment classroom. The Institute's researchers think that disadvantaged children, with their particular problems of self-esteem, will benefit from repeated and proud use of their names. Names are posted on their individual lockers, names identify each child's work.

Children's Toilet Area



No. 1

The first consideration for the children's toilet area is to make it accessible from all play areas in the Center (Kellogg, 1949, p. 14) (Diagrams No. 1 and No. 2). When a single group play environment begins to approach 40 to 50 children, it may be better to create several dispersed toilet areas. This assumes that the children have considerable freedom to move around and that toileting is geared to a child's need and is not a group-directed activity.

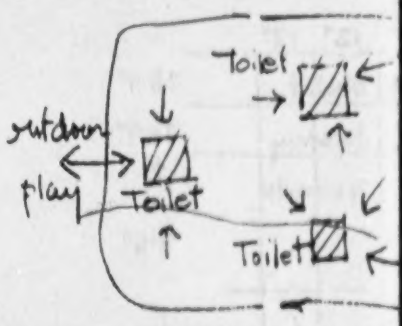


No. 2

Mrs. Loeffler, director of the Casady School, comments on separate toilet areas (EFL, 1970 A):

The use of six individual toilets ha an unmixed blessing. It has create tion where every child feels free t toilet without permission or be ta where. The toilets are available wh child is. (p. 21)

The main toilet area or one of the toilet areas should be available fro door play yard without disrupting activity areas (Diagram No. 3).



No. 3

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If there is reasonable indoor and space, all other problems can be s the playroom-toilet-playground a is satisfactory. But the majority o schools in the United States do n rect access from the toilet to the as well as to the playroom. Altho tects and those responsible for pl nursery school should know that old children have to get to the to they seem oblivious to it. (p. 15)

(See Bellehaven Children's Cente School, and H. Jones Child Study appendix.)

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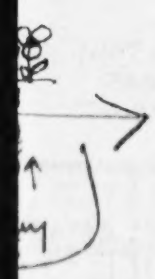

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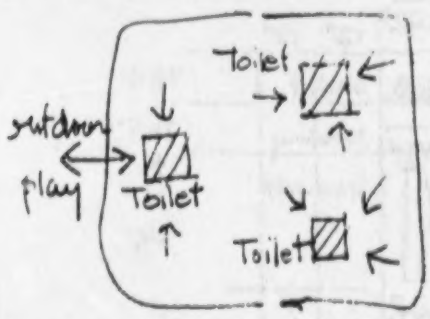
The main toilet area or one of the dispersed toilet areas should be available from the outdoor play yard without disrupting the indoor activity areas (Diagram No. 3).



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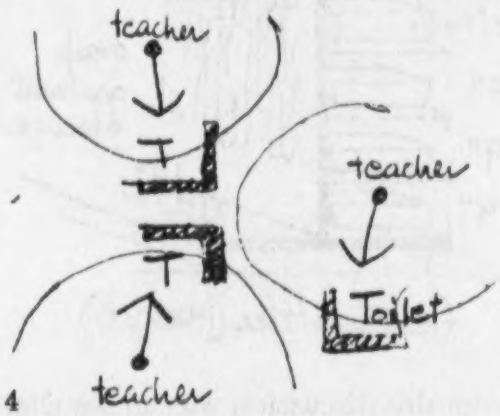
From Kellogg (1949):

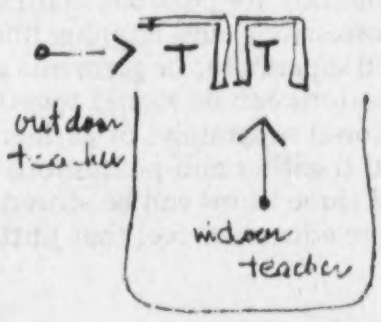
If there is reasonable indoor and outdoor space, all other problems can be solved when the playroom-toilet-playground arrangement is satisfactory. But the majority of nursery schools in the United States do not have direct access from the toilet to the playground as well as to the playroom. Although architects and those responsible for planning the nursery school should know that two-year-old children have to get to the toilet often, they seem oblivious to it. (p. 15).

(See Bellehaven Children's Center, Casady School, and H. Jones Child Study Center, appendix.)

Teacher supervision of the toilet area is required to give a child assistance when he needs it but otherwise self-sufficiency in toileting is encouraged. Supervision is also needed to control the undesirable (but natural) play that occurs in the toilet area (Kellogg, 1949, pp. 294-310). Therefore the toilets should be located to allow at least one teacher a view into each toilet (Diagrams No. 4 and No. 5).



No. 4



No. 5

The general physical atmosphere of the toilet area can aid the toileting activities. From Kellogg (1949):

We know that many children suffer greatly from home training in their struggle to achieve continence. Therefore our first object is to make toileting a pleasure—not a misery. To do this, the toilet should be a sociable, friendly place where no scoldings are heard and where an air of enjoyment as well as duty exist. (p. 205)

To aid in creating a cheerful toilet environment the architect will need to minimize the coldness usually produced by "easy to maintain" surfaces. Some examples would be the introduction of sunlight, view windows to the outdoor play areas, ledges for potted plants and flowers, bright colors, and wood surfaces.

The size of the toilet fixtures can also aid the teacher and child in toilet training. There is some argument for having fixtures at adult height to minimize differences with the home, but the weight of opinion is on the side of maximum convenience for the child (Kellogg, 1949, p. 204; Landreth and Moise, 1949). (And, as mentioned in Pattern No. 4, it may make sense to provide child-sized fixtures in homes with small children.)

The recommended height of water closets, ages 3.0 to 5.0 years, is 11" (Department of Education and Science). This height corresponds to the typical junior fixtures available from most plumbing manufacturers. But it has been found that this height is still too high to accommodate children ages 2.0 to 3.0 years. To solve this problem temporarily until small fixtures are available, a Center can either use portable "potties," put a step next to a junior fixture, or set the fixtures into the floor to lower the rim height (Phoebe Hearst Preschool Learning Center, San Francisco).

Urinals for the boys are not found in most Centers but are highly recommended by some teachers "to keep toilet seats dry and floors free of urine" (Kellogg, 1967). A trough type fixture set 12" from the floor will be more efficient than individual floor mounted fixtures.

The majority of educators and psychologists suggest toilets without separation between the sexes as a means to encourage a healthy attitude toward sexual development (Foster and Mattson, 1949, p. 125). Others go one step further and eliminate any separation between individual water closets and between water closets and urinals. From a teacher's point of view, this lack of separation is helpful since it allows her ample space to assist a child, and it facilitates visual supervision from the group play environment (H. Jones Child Study Center, Phoebe Hearst Preschool Learning Center, appendix). But other teachers insist that the children

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Recommendations for the number of water closets range from one fixture per 5 children up to one fixture per 15 children, with an average of *1 to 10* (Kellogg, 1949, p. 459; Haase, p. 18). For urinals, we are recommending 4'-0" of trough for each group of 30 children.

Details Sometimes Overlooked

—The need for a cleanout to allow retrieval of flushed toys that have blocked the drain line.

—Sound isolation of flushing—especially if the group play environment is used for napping (Pattern No. 25).

—Placement of toilet paper, hand towels, mirrors at child height.

—The need for a seamless floor in the toilet area to minimize retention of water and germs, i.e., liquid plastic, ceramic tile, or sheet vinyl (see Pattern No. 12). Raw concrete is not a good material since the urine will find its way into the "hair line" cracks and produce odors.

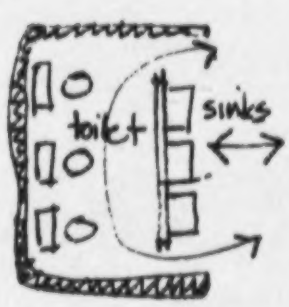
Children's Sinks

Hand Washing

Child hand washing serves three basic functions in the Children's Center; after toileting, before and after eating, and in association with play activities. In general, teachers want the children to wash their hands after defecating but feel it is psychologically unhealthy to make them wash in every instance after urinating (Landreth, 1942, p. 91). And from Kellogg (1949):

With toileting our aim is to develop the child's self-sufficiency in caring for his own toilet needs, and to avoid the development of neurotic traits associated with the function of elimination. (p. 205)

Therefore the hand washing facilities should be located convenient to the toilet area but not *in* the toilet area, to minimize the association of hand washing and toileting. This location outside the toilet area will allow the sink to serve other functions in the group play environment more conveniently (Diagrams No. 1 and No. 2).



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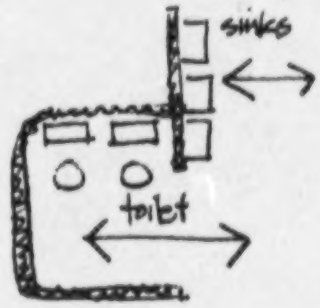
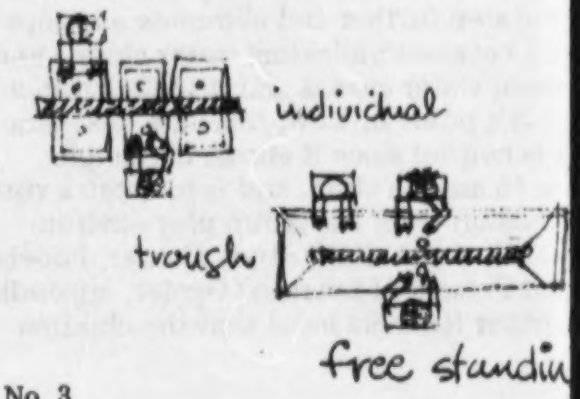


No. 2

Individual sinks or a group sink (tro can be provided for hand washing (Diag No. 3, 4, 5, and 6). Individual sinks give child a definitive place to wash, which h eliminate "playing around" with the ad child. They also allow separate controls have, by their singular quality, a less ins tional feeling. Teachers who like trough argue that they save space and minimize amount of splashed water that ends up the floor. The institutional feeling can b duced by placing the trough in a counte top.



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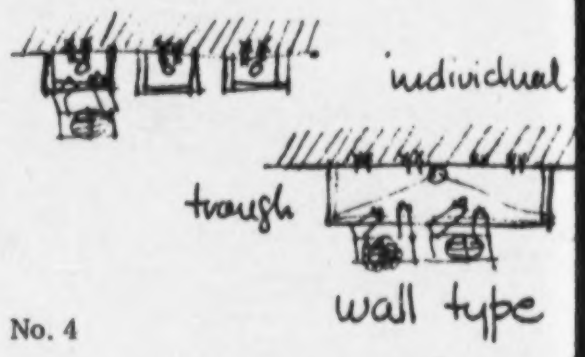
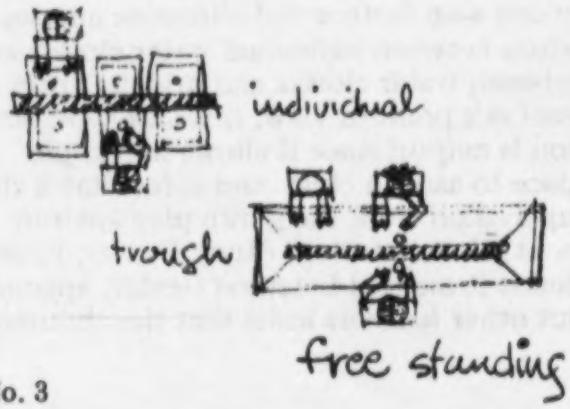


No. 4

ks

Pattern 15

Individual sinks or a group sink (trough) can be provided for hand washing (Diagrams No. 3, 4, 5, and 6). Individual sinks give each child a definitive place to wash, which helps eliminate "playing around" with the adjacent child. They also allow separate controls and have, by their singular quality, a less institutional feeling. Teachers who like trough sinks argue that they save space and minimize the amount of splashed water that ends up on the floor. The institutional feeling can be reduced by placing the trough in a counter top.



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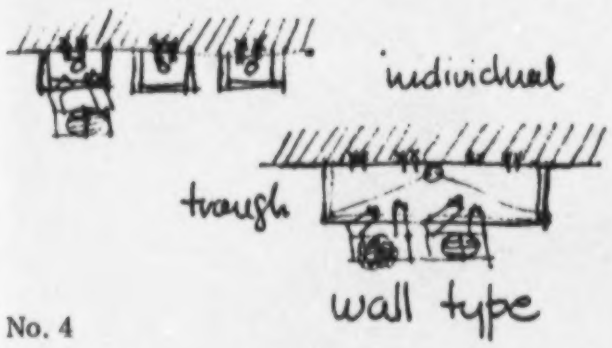

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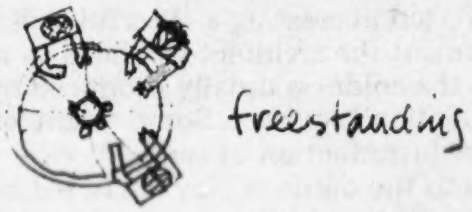

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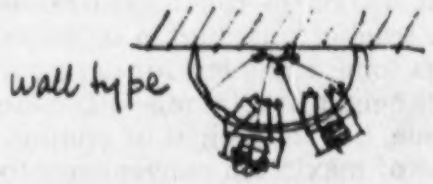

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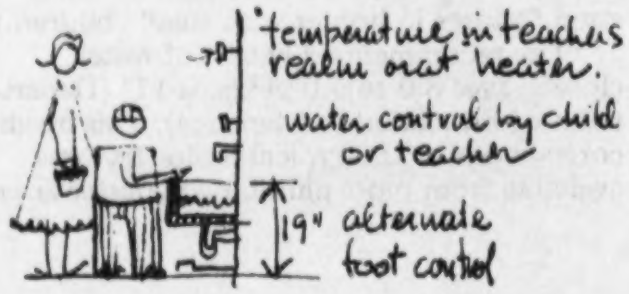

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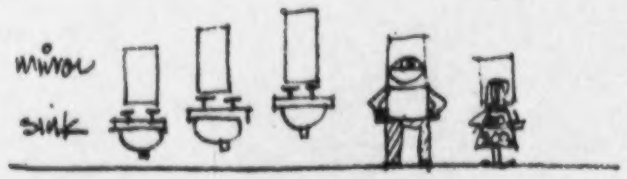


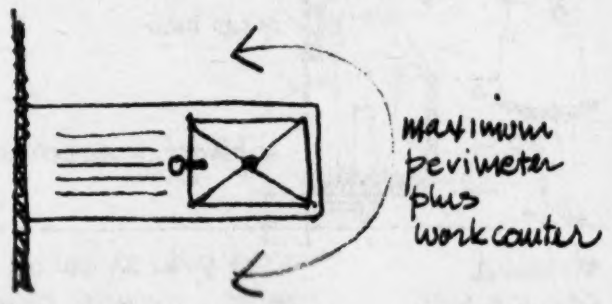
No. 7A sinks at 3 heights in a mixed age, group room

Diagram No. 7: Ramsey and Sleeper recommend a sink rim height of 19" for children between 2 and 5 years, but others prefer different heights for each age level. Margaret Skutch placed the sinks at the telephone company day care center in Washington at variable heights (Diagram 7A). Hot water temperature should be controlled to eliminate scalded hands. Temperature limitation can be accomplished by providing a mixing valve within the teacher's realm with or without thermostatic control, or the water heater can be set to provide warm water only. The amount of water flow can be controlled from the teacher's realm (to minimize playing around) or the children can be given this control to maximize their self-reliance (Pattern No. 4). Another variation is the use of foot controls in place of hand controls. This is a useful device when the child has dirty or slippery hands.

The recommended number of children per sink or sink station (18 lineal inches) varies from one fixture per 5 children up to one fixture per 10 children (Kellogg, 1949, p. 459). We will recommend a ratio of one sink or station for every 8 children and include both hand wash and special purpose sinks.

Special Purpose Sinks

Various activities in the group play environment have a need for a special sink (Pattern No. 17, *Water Play* and Pattern No. 19, *Clay, Paint, Graphics, and Collage*). An ideal Center might provide a custom-designed sink for each one of these activities (including a play yard sink), but a more common practice is the use of one or two multipurpose sinks to serve all the play activities in the group play environment. These sinks are usually found within the "wet" area (Pattern No. 12). A sink of this type should be deep enough to allow a variety of wash up activities and wide enough to allow its use by several children. Any sink that will also be used for water play should have a maximum perimeter area and the water controls should be placed out of the child's way (Diagrams No. 8 and No. 9).



No. 8

No. 9

All multipurpose sinks should have adjacent work space that drains into the sink. The hot water source should have temperature control, or the sink should be served by cold water only. (See the Child Minders School, The Early Learning Center, the Eveline Lowe Primary School, appendix).

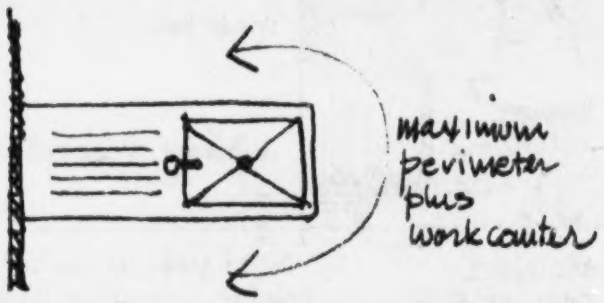
A further cost reduction can be achieved by bringing all the sinks together in one area, both the activity sinks and the hand wash sinks (Diagrams No. 9, 10, and 11). This will reduce the amount of plumbing lines and potentially the number of sinks. The recommendation discussed previously for placing the hand wash sinks outside the toilet area will allow this multipurpose use.

Child Washing

The following tendencies suggest the need for a special child washing sink at a Children's Center.

a) Children will have a bowel relapse from

its use by several children. Any sink that will also be used for water play should have a maximum perimeter area and the water controls should be placed out of the child's way (Diagrams No. 8 and No. 9).



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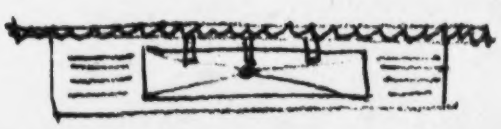

No. 9

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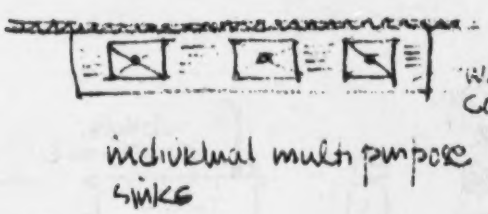
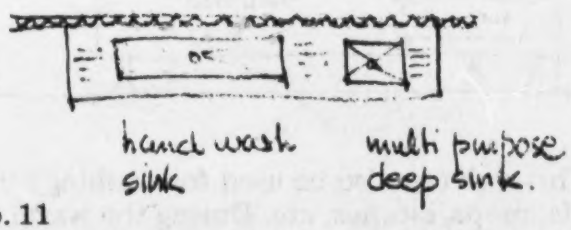
Child Washing

The following tendencies suggest the need for a special child washing sink at a Children's Center.

a) Children will have a bowel relapse from time to time and need a partial change of clothes (Kellogg, 1949, p. 209).



No. 10



No. 11

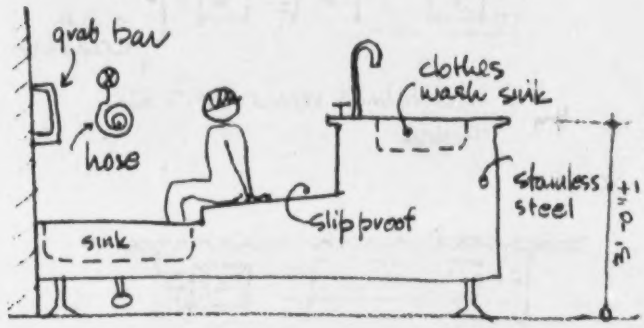
b) Children may get excessively dirty outside, especially if they are allowed to mix sand, dirt, and water (Pattern No. 21).
c) A child's arm or leg may need to be washed after a fall and before medication is applied.

When performing the above activities the teacher will need to bend down to work with the child, which is awkward and backbreaking (Pattern No. 4, *Teacher's Realm*) or the child will need to be raised up to her level near a water source. To minimize the amount of effort involved in child washing, the following sink was designed for the Phoebe Hearst Preschool Learning Center (see floor plan, appendix). This sink points out all the requirements for this activity (Diagram No. 12).

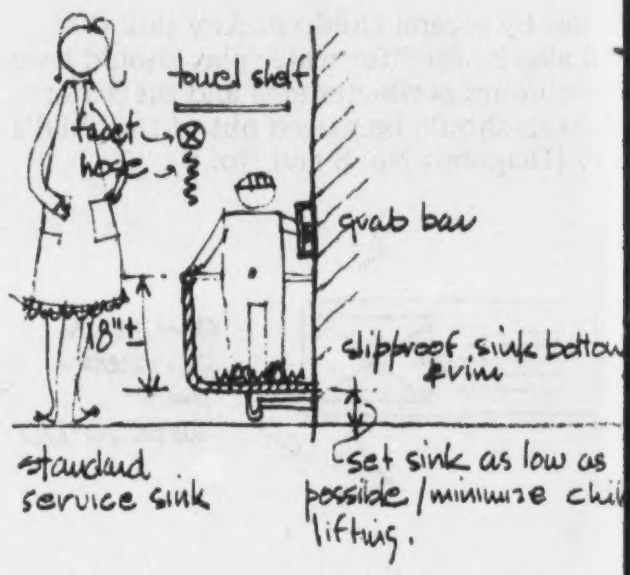
A towel rack, medicine cabinet, and access to clean clothes will complete the accessories needed for this facility. The sink should be located out of the path of any cold drafts from windows or doors.

If the budget does not allow for a custom-designed sink, then a similar facility should be developed utilizing a standard service sink.

No. 12



This sink can also be used for washing buckets, mops, clothes, etc. During the warm weather children can be hosed off outdoors (Pattern No. 17). (See the Eveline Lowe Primary School, appendix, for a similar sink.)



No. 13

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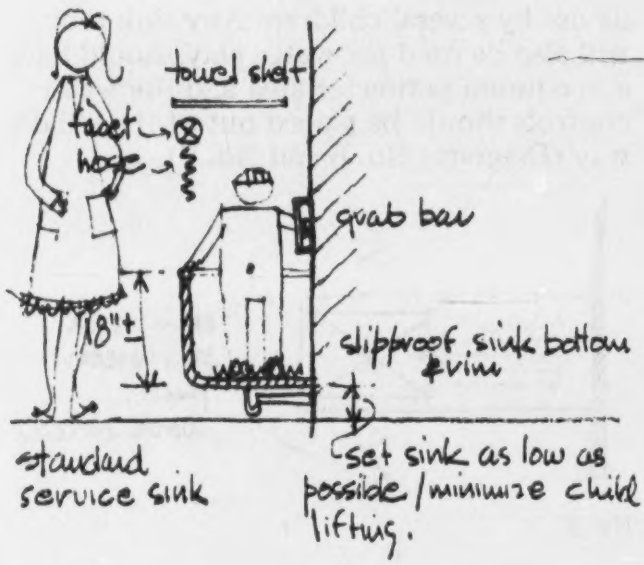


No. 13

Drinking Fountains

Drinking fountains should be available to the child to maximize his self-sufficiency. A minimum budget might provide only one fountain indoors connected to a sink, while a more generous budget should provide a number of individual fountains scattered throughout the indoor and outdoor play areas. The fountains should be of sturdy construction and the floor to water source height set at 24".

All sinks and drinking fountains located in the vicinity of sand play should have adequate strainers to prevent clogged drains.

Pattern No. 26, *The Sick Child*, Pattern No. 27, *Staff Lounge/Parents Lounge*, and Pattern No. 16, *Teacher Preparation Area/ Emphasis Food Service* cover the need for adult sinks within the Children's Center, with the exception of sinks for a *full* kitchen, which are not covered by the patterns in this book.

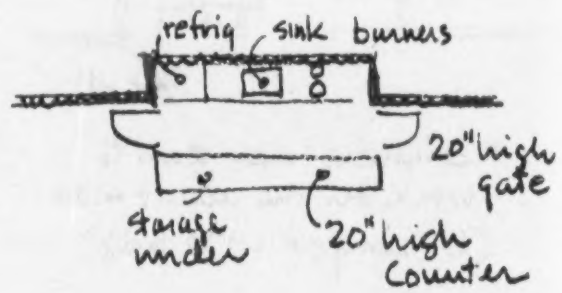
Teacher Preparation Area/ Emphasis Food Service

In Pattern No. 4 we discussed the need for a teacher's realm that served her functionally and aesthetically. One of the most convenient elements in this adult realm is a place where the teachers can make preparations for the children's activities (Landreth and Moise, 1949). This area will need facilities to assist in food preparation and serving and facilities to assist in preparing paints, paste, plants, etc. The need for general activity preparation will be required for all programs but Centers will vary in their need for food preparation facilities.

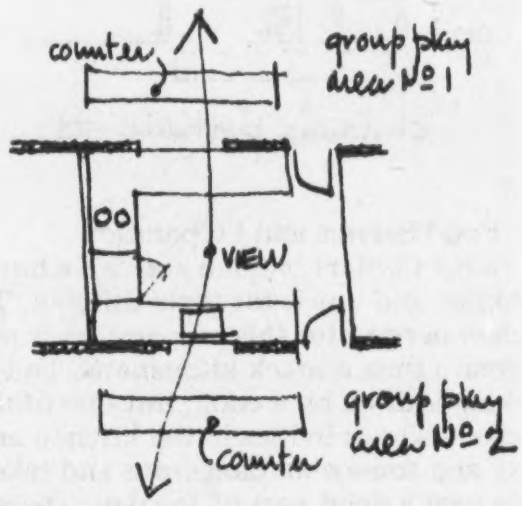
Programs with Snack Service Only

For snack preparation there is a need for one or two heating elements, refrigeration, a sink with hot and cold water, work counter space, and storage for food and other supplies, i.e., a kitchenette. The area should have containers for trash storage and be well ventilated. Counter height should be at 3′-0″ from the floor.

Once the snacks are prepared they will need to be served to the children. Some teachers allow snacks to be available throughout the day while other teachers program a specific snack period. But in either case, the child should be able to serve himself (Pattern No. 4, maximum self-reliance). This will require a counter at a height of 22″ from the floor (Department of Education and Science, 1967, p. 48). The counter should be located adjacent to the kitchenette area (minimum carrying by the teachers) and near the children's eating area (Diagrams No. 1, 2, and 3).



No. 1



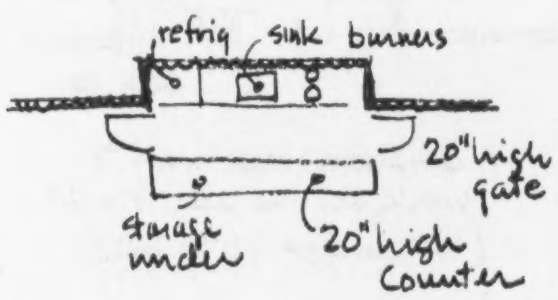
No. 2

The counter should have an electrical out under-counter storage, and an easy-to-ma tain surface. The design of the preparatio area should allow a teacher working with the area to visually supervise her share of group play environment (Pattern No. 9, supervision).

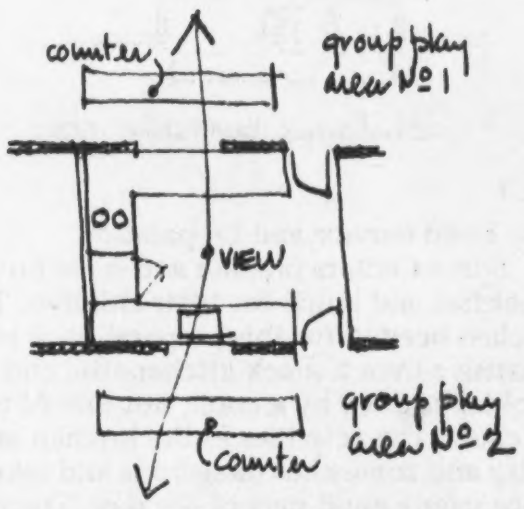
The 3′-0″ counter required for teache use places items sitting on the counter in

aration Area/ d Service

Pattern 16



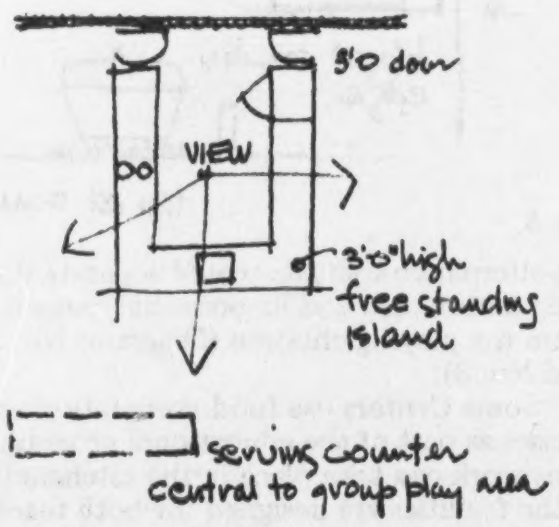
No. 1



No. 2

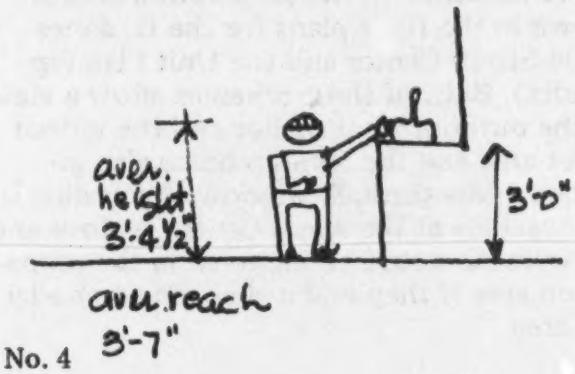
The counter should have an electrical outlet, under-counter storage, and an easy-to-maintain surface. The design of the preparation area should allow a teacher working within the area to visually supervise her share of the group play environment (Pattern No. 9, supervision).

The 3'-0" counter required for teacher use places items sitting on the counter in a



No. 3

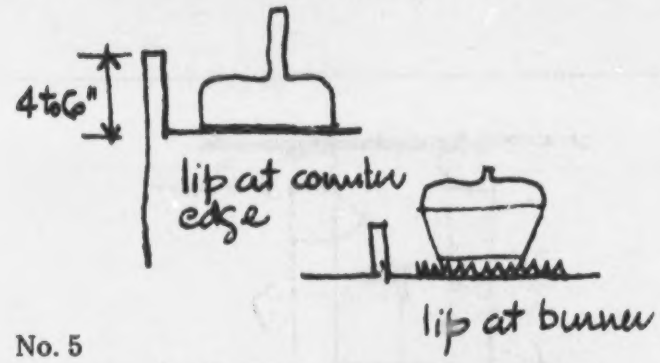
potentially dangerous position; the children can just reach these items but they cannot see their contents and judge their danger (Diagram No. 4),



No. 4

(average reach up, age 3.0 to 5.0 years is 3'-7" and the average child height is 3'-4½" —Department of Education and Science,

1967A, p. 53). If a Center prefers the preparation area *open* to the group play environment, then the dangers should be isolated at their source (Diagram No. 5).

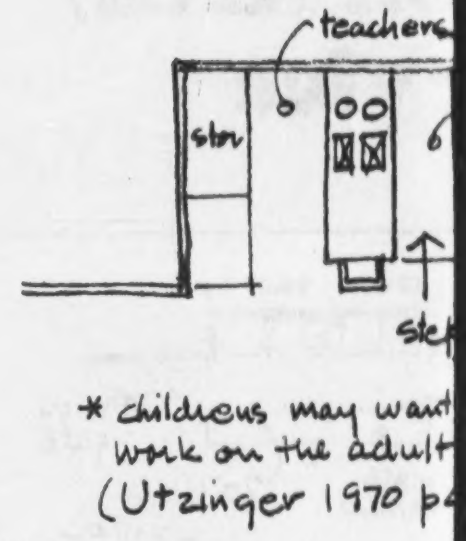


No. 5

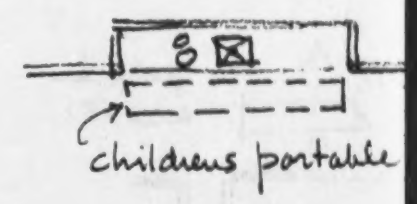
An alternative solution would separate the preparation area and its potential dangers from the playing children (Diagrams No. 2 and No. 3).

Some Centers use food preparation exercises as part of the educational program. This work can take place in the kitchenette if the facilities are designed for both teacher and child use. In lieu of a joint-use kitchenette, other Centers prefer the use of portable electric appliances used at a child height counter. The serving counter mentioned above can be used for this purpose.

A variation on the preparation area is shown in the floor plans for the H. Jones Child Study Center and the Unit Plan (appendix). Both of these schemes allow a view of the outdoor semi-shelter and the indoor toilet area and the Jones scheme also includes a pass-through window. According to the teachers at the Jones Center, a stove and refrigerator would be included in the preparation area if they had a chance to remodel the area.



No. 6



No. 7

Hot Food Service and Preparati

Some Centers prepare and s
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cooking is done by a cook, not
teachers. The activities in the ki
noisy and somewhat dangerous
place over a good part of the da
this kitchen should be separate
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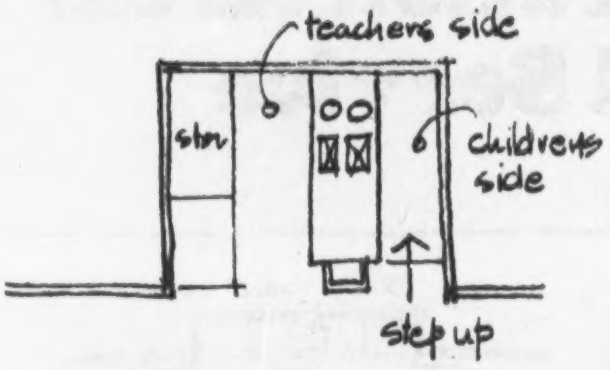


* childrens may want to work on the adult side (Utzinger 1970 p42)

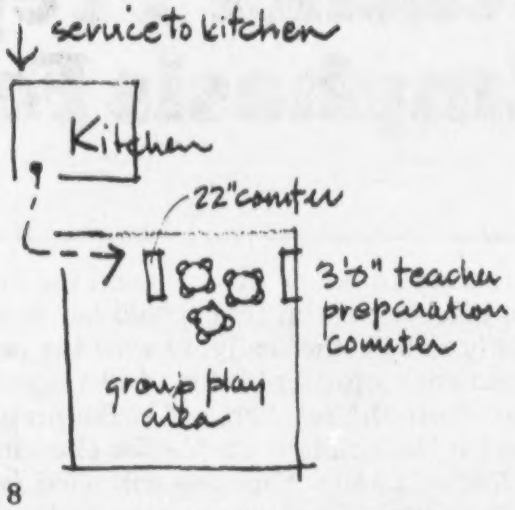
No. 6

No. 7

Hot Food Service and Preparation

Some Centers prepare and serve hot breakfast and lunch for their children. The kitchen needed for this preparation is more extensive than a snack kitchenette, and the cooking is done by a cook, not one of the teachers. The activities in the kitchen are noisy and somewhat dangerous and take place over a good part of the day. Therefore, this kitchen should be separate from the group play environment. We have not written a pattern for this kitchen since its requirements should be quite familiar to the local design team.

If there is a central kitchen, then the



No. 8

teacher preparation area should contain a sink, storage, trash bins, and work counter space but no stove and refrigerator. A child height serving counter will be needed when the food is brought to the group play environment since self-service is also a criterion for hot meals. From Loeffler (1967):

If meals are served at the school (preschool), serving facilities should be organized so that the child can learn to serve himself and others, developing skills and independence in this important area also. (p. 9)

(See the Phoebe Hearst Preschool Learning Center, the Bing Nursery School, and the Child Minders School, appendix.)

A Center which has hot food delivered by truck will need a kitchenette/preparation area for each group play environment since snacks will still be prepared at the Center and the serving counter will be needed for self-service of both snacks and the hot meals. Ramps should be provided along the path of travel if hot food carts are rolled from a food truck to the group play environment.

Water Play

It is generally accepted by most educators and psychologists that water play can have a very useful place in a preschool program. From Hartley, *et al.* (1964):

To sum up, water play has many values and can be used for many purposes in the preschool and kindergarten program. To the development of sensation and feeling it offers more varied experience and a keener pleasure than any other material except fingerpaint; to intellectual development it contributes its great flexibility and vast opportunities for experimentation and exploration. It stimulates the inhibited child and soothes the explosive. (p. 185)

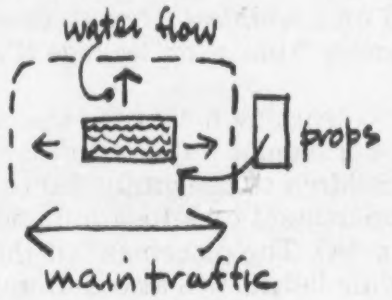
But on the other hand, water play can create many problems for the teacher, and unless these problems are given design consideration, the teacher will place so many restrictions on the children that the value of water play will be lost. Hartley (*ibid.*) makes this point and gives a definition of water play which we will be using for this pattern:

Simply permitting the youngsters to play with water, however, does not automatically confer on them the multiple benefits suggested by our observations. The activity is often surrounded by so many restrictions that it is robbed of any salutary effect it might otherwise have had. (p. 177)

As used in this study, the term water play refers to the free and unhindered use of water during which the child immerses various articles, pours, blows bubbles, or simply splashes or agitates it to produce movement. (p. 154)

Indoor Water Play

To limit the number of rules required by the teacher, the water play environment should be designed to minimize water clean-up and slipping, help keep the children dry, provide a generous supply of props and water surface, and provide protection to the water play area from children engaged in other activities (Diagram No. 1).*



No. 1

The requirement for protection (*ibid.*, p. 185) implies that the water play area should be out of the main traffic flow and have some sense of enclosure (see Pattern No. 9 for a full discussion of enclosure). A *permanent* water table creates its own area and would be available for long periods of uninterrupted play. A water tub on wheels (one or two person size) would allow the teacher to place the tub in either a quiet corner for passive protected play or in an action area for more vigorous play.

*"Real" work with water does not need a special facility but is a potential program item that fulfills some of the needs for water play (mopping, washing shelves, easels, tables, cleaning containers, etc.) (NAEYC, 1959).

Pattern 17

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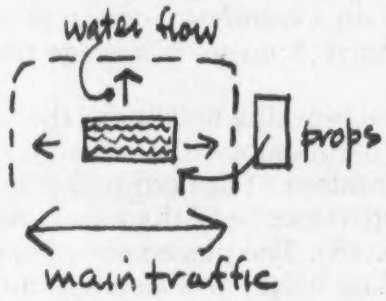

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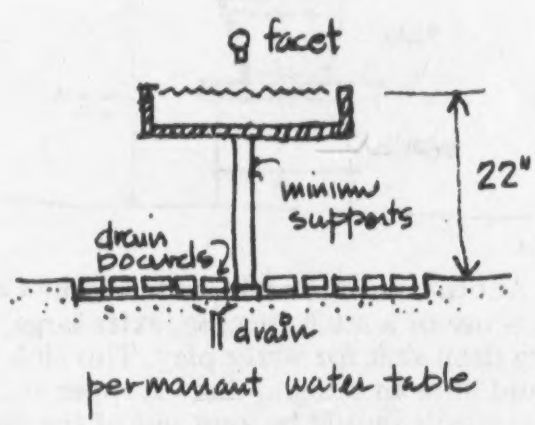
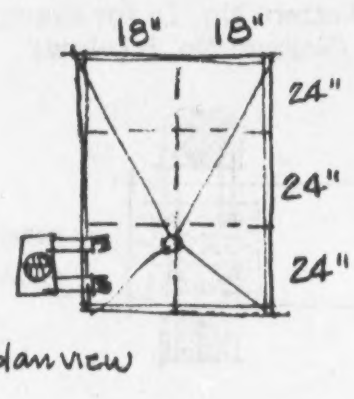
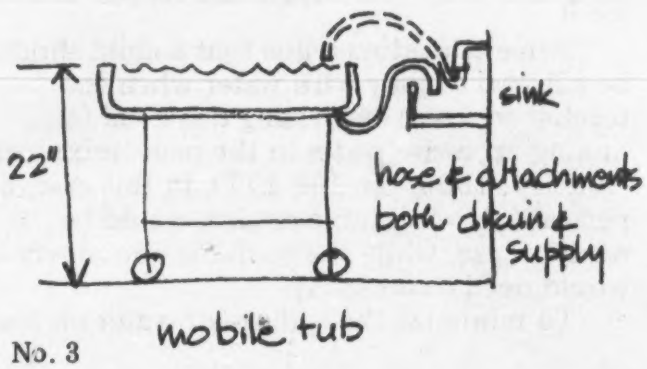




No. 2



No. 3

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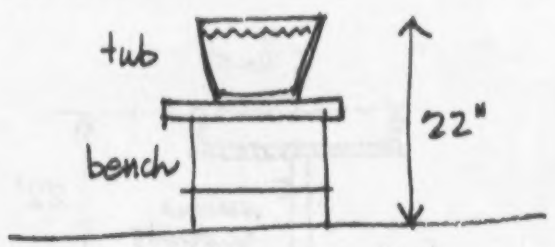
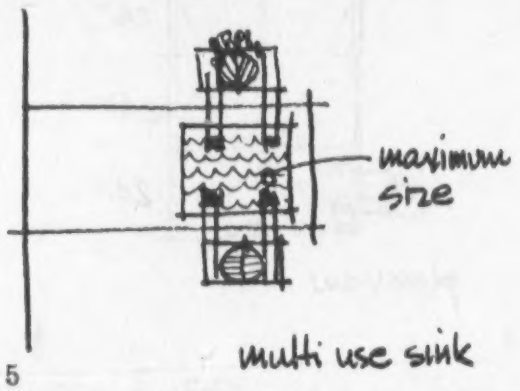
The Early Learning Center at Stamford, Connecticut has adapted an inexpensive wheeled baby bassinet for this kind of movable water play. Portable buckets and tubs (no wheels) are also inexpensive and have the advantage of allowing storage when not in use (Diagram No. 4).



No. 4

Another solution adopted in some Centers is use of a multipurpose, extra large, extra deep sink for water play. This sink should have an integral drain stopper and the controls should be kept out of the child's way (see Pattern No. 15 for example solutions and Diagram No. 5 below).



No. 5

Some educators argue that a child should be allowed to play with water when the teacher sees him expressing this need (e.g., mixing excessive water in the paint mixture) (Hartley, 1964, pp. 176-177). In this case, a permanent water table or sink would be ready to use, while the portable containers would need to be set up.

To minimize the spillage of water on the floor the water supply should flow into the play container. A permanent should have a cold water source at (with an automatic shut-off valve) able container should be filled with attached to a faucet designed for t sibility (Diagrams No. 2 and No. 3

When water does splash on the flooring material should collect th in some way and still retain a slip-face. An ideal solution is a wooden board set flush with the floor and a drain underneath (Diagram No. ber mat with a deep pile also work is less expensive. A jute mat is good ally needs some friction material to keep it from moving. These ma be placed on a *seamless* floor to p water damage from seam leakage No. 12).

A good working height for the level in a permanent table or tub i 22" for children of age group 3.0 years (Department of Education a 1967A, p. 48). The placement of this standing height will also mini amount of water that gets on the ing (as opposed to floor level),* e he wears a waterproof smock.

When playing at a group cont child should be provided with suf water *surface* to avoid conflict wi children. From observations, a mi area would be 24" wide by 18" d gram No. 2). If portable containe there should be a sufficient numb waiting.

*A Center in Reston, Virginia, cont level, built-in, indoor water play facilit director would raise to standing height the chance. She pointed out, in conver the children get excessively wet playing level with the water and usually end up pit.

floor the water supply should flow directly into the play container. A permanent table should have a cold water source attached (with an automatic shut-off valve) and a portable container should be filled with a hose attached to a faucet designed for this possibility (Diagrams No. 2 and No. 3).

When water does splash on the floor the flooring material should collect this water in some way and still retain a slip-proof surface. An ideal solution is a wooden drain board set flush with the floor and containing a drain underneath (Diagram No. 2). A rubber mat with a deep pile also works well and is less expensive. A jute mat is good but usually needs some friction material on the back to keep it from moving. These mats should be placed on a *seamless* floor to prevent water damage from seam leakage (Pattern No. 12).

A good working height for the water level in a permanent table or tub is about 22" for children of age group 3.0 to 5.0 years (Department of Education and Science, 1967A, p. 48). The placement of the water at this standing height will also minimize the amount of water that gets on the child's clothing (as opposed to floor level),* especially if he wears a waterproof smock.

When playing at a group container, each child should be provided with sufficient water *surface* to avoid conflict with the other children. From observations, a minimum area would be 24" wide by 18" deep (Diagram No. 2). If portable containers are used, there should be a sufficient number to avoid waiting.

*A Center in Reston, Virginia, contains a floor-level, built-in, indoor water play facility which the director would raise to standing height if she had the chance. She pointed out, in conversation, that the children get excessively wet playing at the same level with the water and usually end up in the water pit.

Child height shelving adjacent to the water play area will allow storage and access to a choice of water play props (see Leitman and Churchill, 1966, for a list of water play props). This shelving should be impervious to the residual water that will remain on the props (e.g., enamel paint, formica, masonite, etc.).

Outdoor Water Play

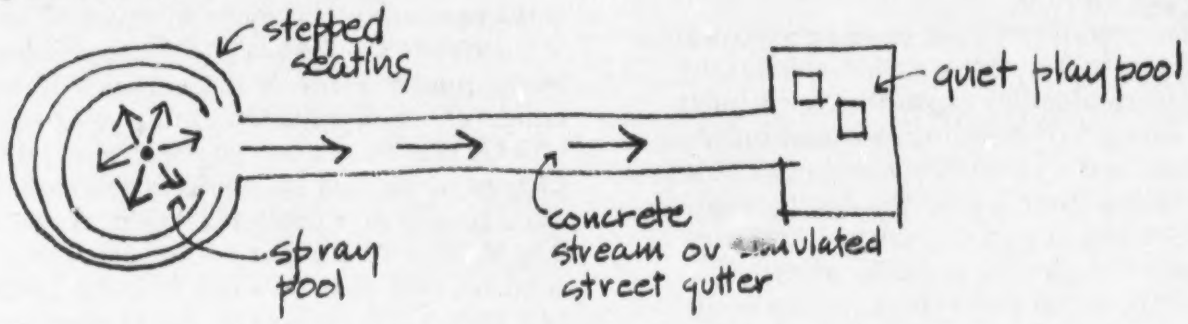
There are some teachers who would limit water play to the outdoor play yard on warm days. We will not argue with this decision except to point to the potential benefits listed above which seem to warrant year around use. Also, Landreth (1942, p. 25) and others have pointed out that children will use hand washing, paint mixing, or any other activity in which water is involved as a substitute if denied the direct use of water.

Outdoor water play facilities could be similar to any of the indoor solutions discussed above but they also have the potential to allow more exuberant play. This exuberance is usually allowed expression in facilities where the child can immerse his hands and feet or his total body.*

A spray and wading pool can be built into the outdoor play yard if the budget will allow. The pool should allow for active water play but also include the potential for small-scale water manipulation that allows the children to make dams, waterfalls, float boats, etc. The water level should not be greater than 9" (Allen, 1968, p. 37), and walking surfaces should be designed to minimize slipping when wet.

*In Pattern No. 21 we limited the mixing of water with sand by providing portable water only to the sand play area. Most teachers feel that the "muck" produced from directly mixing water play and sand play is valuable play to a child but inappropriate in a Children's Center where limited time is available for washing children.

An empty pool can become a safety hazard when not in use. Therefore, any permanent structure should be designed for other play activities when it is not filled with water, i.e., a trike run, a seating area, a climbing element, etc. Richard Dattner (1969, p. 81) has designed a water play element for a playground in New York City that points out all of these requirements (Diagram No. 6).



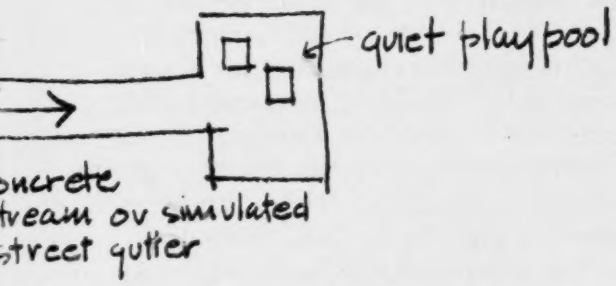
No. 6

The various water play experiences shown in Diagram No. 6 can be broken down into separate inexpensive elements. Passive water play can take place in portable containers, the spray pool can be replaced by a garden hose and spray nozzle, and the concrete pool replaced by an inflatable pool. These elements can all be stored when not in use thereby eliminating

The various water play experiences shown in Diagram No. 6 can be broken down into separate inexpensive elements. Passive water play can take place in portable containers, the spray pool can be replaced by a garden hose and spray nozzle, and the concrete pool replaced by an inflatable pool. These elements can all be stored when not in use thereby eliminating the off-season problem of a permanent structure. (For further suggestions on outdoor water play, see NAEYC, 1959.)

If the child is allowed to get his feet or body wet during water play, there should be a drying off area at the door to the indoor play area. This area should include a bench and towel/clothes hooks. A child height shower protected from the wind would also be useful, but not critical (a hose would do).

Rain water can also be utilized for play and has the wonderful "found" quality that we discussed in Pattern No. 10, *Places to Pause for Awhile.* The rain can be allowed to puddle or form in rivulets or it can be given expression in spurting rain spouts, gurgling catch basins, or tapping on a tin roof.



Construction Activities

Due to their popularity with the children and the educational-psychological value assumed by the teachers, construction activities are a common ingredient of most preschool programs (Hartley, *et al.*, 1964, pp. 99, 149-150). Standard building blocks are the most common construction material in a Children's Center, but the use of additional designed and undesigned building materials is gaining in popularity. These include designed construction materials to be used in addition to a block set, building systems of varying sizes, and "selected junk" material.*

The following discussion points out the reasons why construction play is such a valuable "folk model" for the training of young children and in parallel points out the requirements that must be fulfilled in the physical environment. We have considered only those aspects that have relevance for the physical design of the block play environment. For a full discussion of this a
tivity, see Hartley, Frank and Goldenson
1964, pp. 99-150.

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On the expansive side is the sense o
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*Designed additional building materials are planks, boxes, and sawhorses used to increase the range of large-scale structures and to lure the timid child into further activity (Hartley, 1964, p. 106). Building systems come in a variety of sizes and are generally known by their trade names: Tinker Toys, Legos, Konnecto blocks, Snap Wall, etc. "Selected junk" is also used to extend the range of construction activity but these materials are "found," not purchased. Some materials can be made available for indoor play (springs, wood turnings, cardboard boxes, pulleys, nuts and bolts, etc.). (Leitman and Churchill, 1966, p. 14), and others placed in the outdoor construction area (tire rims, milk crates, steering wheels, barrels, etc.).

Activities

Pattern 18

vironment. For a full discussion of this activity, see Hartley, Frank and Goldenson, 1964, pp. 99-150.

The overall qualities of the construction area is the first design consideration. One group of tendencies is pushing for a maximum amount of building area and building materials and a minimum number of rules for utilizing these materials. Another group of tendencies is pushing toward limiting aggressive, expansive building activity.

On the expansive side is the sense of achievement and control which comes from building large complex structures. For some children this can expand into a "genuine feeling of power and escape from limitations" (*ibid.*, p. 107). Also from Hartley:

When children play with blocks and block accessories especially out of doors, it is as if the whole world were beckoning and daring them to 'come and conquer the world.' Usually they respond to this invitation by trying themselves out in slightly risky but essentially safe situations—thus intuitively following the accepted maxims for acquiring confidence. (p. 121)

This power over limitations through *construction* can also express itself in the *destruction* of structures and may have some positive psychological value. From Hartley (1964, p. 115):

It may be that knocking over block structures has still other values. It is a way of controlling the environment and asserting possessiveness: what one creates one has the right to destroy. It may also show satisfaction a child gets out of process as opposed to product.

But opposed to this aggressive use of blocks is the desire on the part of some children to work quietly alone or in parallel with another child. The well-adjusted child may be working quietly due to intense concentration on his project or he may be working with small-scale blocks or a table-size building system. The child who is having some emotional difficulties will want to work in quiet isolation as a means of protection. From Hartley:

Precisely because blocks have such a unique value for inhibited or timid or disorganized children, and for those who can find no comfort in people, it is essential that the block corner be maintained as a place of refuge and that interference and persecution be prevented. (p. 146)

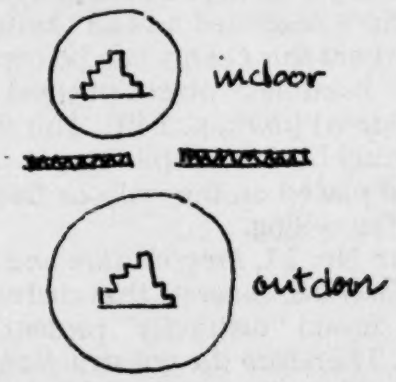
Blocks, due to their non-threatening quality, also serve as an excellent introduction material for a new child (*ibid.*, p. 105). Also on the side of protecting construction activities from destructive, expansive play is the use of "built structures" as places of retreat, as group get-together spots, and as props for dramatic play. From Hartley:

They [blocks] offer youngsters a chance not only to test their strength against the world but also to retreat from it particularly when used in conjunction with such materials as boxes, screens and shelves. (p. 125)

Not all children use block structures and associated materials for solitary retreat. Sometimes several will crawl behind a wall or into

a box together, in that way asserting the solidarity of their small group against the rest. (p. 127)

These conflicting tendencies of aggressive expansion and quiet retreat suggest a series of construction spaces that allow children to work individually, with another child, or with a small group. These spaces should be separated from one another to minimize the aggressive expansion of one group into another and to protect a child or a group working quietly. But this separation should be fluid enough to allow and encourage the new or inhibited child to join with other children when he feels more adventuresome (Hartley, p. 147). The following examples diagram how these criteria might be fulfilled.



No. 1

Diagram No. 1: Construction activities can be provided both indoors and outdoors. Larger and more ambitious group projects can be built outdoors allowing the children to experience greater challenges and adventure. Smaller, more individual projects can be accomplished indoors. A climate that limits outdoor play during certain seasons should provide for both individual and group play indoors.

To stimulate a wider variety of constructions and potential adventure, many educators have suggested that "selected junk" be made a part of outdoor play (Allen, 1968, p. 55; Cooper, 1970). This "
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but at a smaller scale has app
Children's Center play yard (
32, *Passive Outdoor Play Are*
discussion of these play yard
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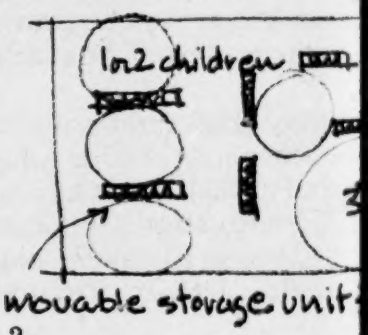

No. 2

Diagram No. 2: A large, ope
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play environment that is div
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the demands of the children

This solution provides m
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supply of materials. Flow be
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The play area for one or tw
be about 25 s ft, and a gro
sq ft (the aver ge group size
is three to five children—Mi

Diagram No. 3: A series of
either separated by permane
or semi-permanent dividers.
each area is excellent but fle
ficed (see H. Jones Child St
pendix).

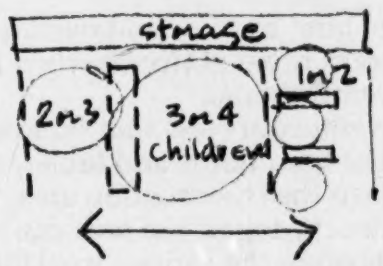
55; Cooper, 1970). This "junk" material usually found on "adventure playgrounds" ut at a smaller scale has applicability for a hildren's Center play yard (see Pattern No. 2, *Passive Outdoor Play Area*, for a further iscussion of these play yard construction reas). If "designed" blocks and accessories ill be used outdoors for construction acvities, they will need protection from vanalism. A cart will be needed for transportg the blocks to a lockable storage facility Pattern No. 11).

o. 2

iagram No. 2: A large, open, flexible conruction area can be provided in the group lay environment that is divided in sub areas f different size by movable material storage arts. The size of the spaces can change as he demands of the children change.

This solution provides many storage cenrs, thereby eliminating conflicts between hose constructing and those getting a new upply of materials. Flow between the varius play groups is excellent in this approach. he play area for one or two children should e about 25 sq ft, and a group area about 75 q ft (the average group size for this age level s three to five children—Millar, 1968, p. 81).

iagram No. 3: A series of block alcoves, ither separated by permanent block shelves r semi-permanent dividers. Protection in ach area is excellent but flexibility is sacriiced (see H. Jones Child Study Center, apendix).



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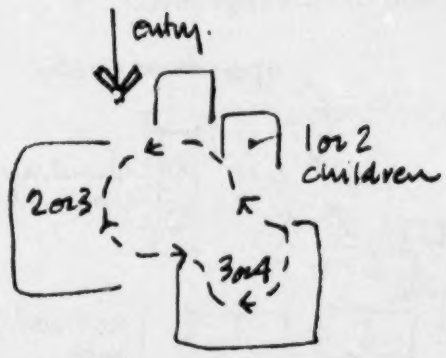
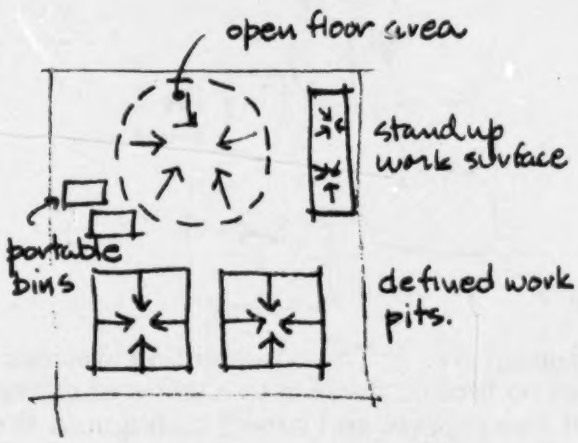


No. 4

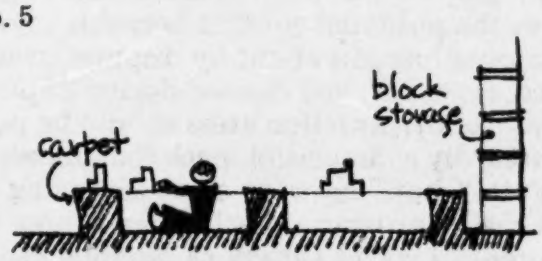
Diagram No. 4: The construction area can also be broken down into a series of different sized spaces and spread throughout the group play environment. This solution eliminates the potential conflict between adjoining spaces brought about by disputes over space, materials, and desired degree of privacy. The construction areas should be pulled together by a circulation path that allows a child to "shop" between areas (assuming a free choice program). Each separate area can be supplied with a variety of building materials or each area could be custom designed to fit a particular construction activity, e.g., small, unitized building blocks and building systems to be utilized on a sit-down or stand-up work surface; large two-hand blocks supplied to a large, open, carpeted space. One of the construction areas in this scheme should be placed near the entry to the group play environment for use by a timid new child. The area should give the child a "sense of enclosure" and protection but it should also

encourage him, by view and overlap, to move toward other activities when he feels more adventuresome.

Some educators feel that building surfaces, other than floors and tables, should be built into the construction area. This permanent structuring of the area can also be used to separate the various working groups. See Patterns No. 9 and No. 11 for a further discussion of this approach.

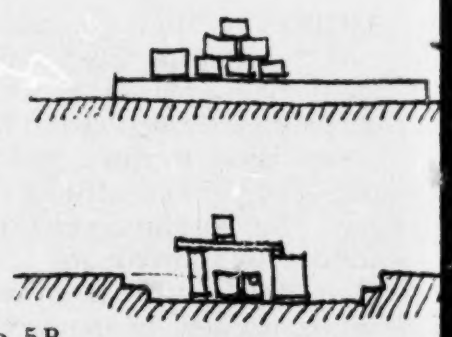


No. 5



No. 5A

Diagrams No. 5 and 5A: The Child Minders School in Greenwich, Connecticut has work pits which protect the child playing within them and stand-up work surfaces which protect the working child by putting his back to the other activities.



No. 5B

Diagram No. 5B: A raised platfo
sunken floor pit are other ways t
definitive work areas separated f
ing areas.

The outdoor play areas can b
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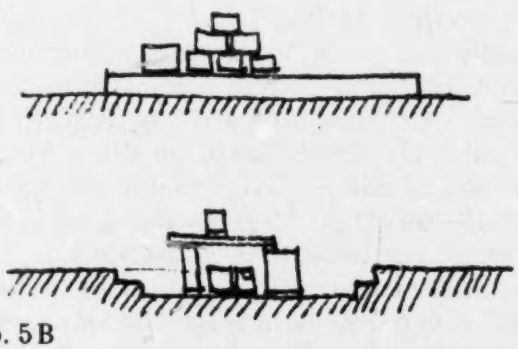


No. 5B

Diagram No. 5B: A raised platform or a sunken floor pit are other ways to provide definitive work areas separated from adjoining areas.

The outdoor play areas can be structured in ways similar to the above indoor solutions. A large open area of asphalt has many advantages but there is also strong support for "structuring" the space as a valuable component of construction activity. From Moore (1966):

Again when dealing with the under-fives we find creative activity stimulated by open-ended qualities, but at a greatly reduced scale. Construction activity could be prompted by the 12" gap between two pieces of stone. At this scale every nook and cranny of the 'fixed environment' could become a stimulus, and at one time or another they did. (pp. 106-107)

We suggested above that a degree of permissiveness be allowed to those children who are in an aggressive mood. If this "mood" takes the form of loud, active group play (simultaneous construction and destruction), then the area should be separated by one of the spatial solutions shown above. This separation will provide some protection between adjacent groups but impact noise must also be considered, unless construction activities are confined to the outdoor play yard. If this noise is not reduced by the environment, it will be reduced by the teacher and exuberance will be stifled. Therefore, all construction surfaces should be covered with carpet to cushion the noise of falling blocks, but the carpet should have a dense, low pile to provide a stable building surface. Block shelves can also be carpeted to reduce sound. Any exposed wood surfaces should be "hardwood" or covered with plastic laminate to reduce destruction from repeated "knocks."

For the child who "feels compelled to use blocks explosively" before using them constructively (Hartley, 1964, p. 112), some teachers have suggested a small "throwing corner" where this energy can be expended against an inanimate object (instead of the other children) (*ibid.*, p. 149). This throwing surface could be a dense pile carpet or soft fiberboard placed on the walls or free-hanging from the ceiling.

Pattern No. 11, *Presentation and Storage of Play Materials*, suggests that shelved play materials should "distinctly" present their potential. Therefore the construction materials should be displayed to clearly show the range of choice available to the children (size, shape, texture, color). If block bins are used they should contain a single building material, i.e., the material hidden should be the same as the material visible. See Pattern No. 11 for further storage requirements.

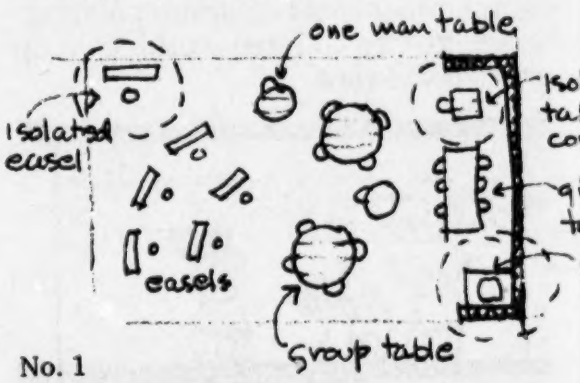
Clay, Paint, Graphics and Collage

Working with paint and graphic materials is common to most preschool programs, but clay and collage activities are not universally accepted. Therefore the teachers should choose what materials will be used while we will discuss the physical implications of *all* art materials. For arguments supporting the use of clay, see Hartley, Frank and Goldenson (1964, p. 187), and supporting collage see D'Amico (1960).

The use of clay, painting, graphics, and collage by the child serves both a cognitive-aesthetic function and as an emotional release. We will discuss only those aspects of these two functions which have implications for the design of the physical environment.

The art area should have both individual and group work areas since there are times when a child will want to work alone, times when he will want to work in parallel with another child, and times when he will prefer group play (Hartley, *et al.*, 1964, pp. 190, 214). Also pushing for some individualization of the working area is the need to separate a child who is in a vigorous, messy mood from those children who are working more passively. This separation will allow the child to vent his frustration without disturbing others (*ibid.*, p. 240). This messy use of materials is also a normal way for many children to approach a new material (*ibid.*, pp. 221-222). When a child is in this aggressive or exploratory mood, he will tend to paint the easel frame, the table, the wall, or himself. To allow this freedom, but minimize the amount of teacher-cleanup chores, the child should be provided with a paint smock and some old boxes and furniture paint (*ibid.*, p. 267) as substitutes for th play room furniture.

Example Solutions



No. 1

Diagram No. 1: Providing one-person ta and easels will allow for individual work Further separation can be provided by t arrangement of these elements within th area or by the use of a movable storage or divider. Stand-up work tables should 22" from the floor and sit-down/stand- tables at 17" (2.0 to 3.5 years) or 19-1 (3.5 to 5.0 years) from the floor (Depar ment of Education and Science, 1967, 48).

Diagram No. 2: Built-in work surfaces (high by 30" deep) for painting, clay, co and graphic work. Lineal arrangement a for individual (no eye contact), parallel group work. Painting can be done horiz

*Kellogg (1949, p. 136) suggests a minim one easel per 10 children but preferably one p or 7 children.

Pattern 19

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*llogg (1949, p. 136) suggests a minimum of
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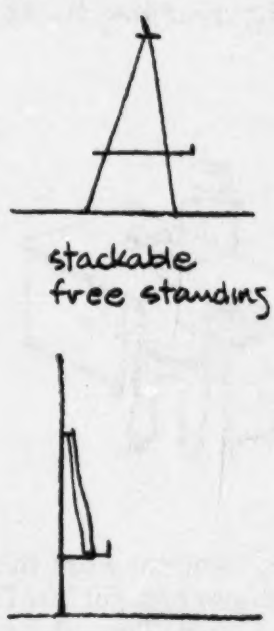
No. 2

tally on a fixed surface or on a tilt-up table (see Diagram No. 3 below). As a separate room (acoustic isolation) the area could also be used for carpentry and science work.



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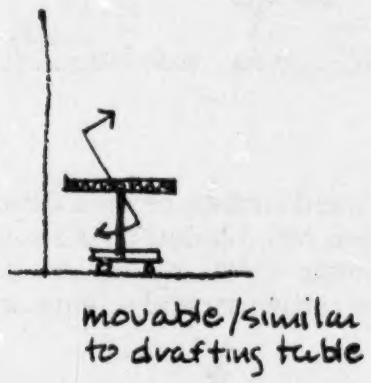

No. 3

No. 4

Diagram No. 4: Tandem work table for two children working in parallel but from opposite sides of the table. This allows free arm movement and face-to-face social contact.

No. 5

Diagram No. 5: Tandem or ind
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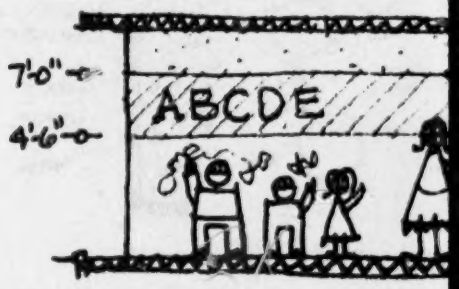

No. 6

Diagram No. 6: Continuous ex
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It is also desirable that at le
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No. 5

Diagram No. 5: Tandem or individual, vertical fingerpainting panel. A group painting can be made by two children working on opposite sides of the glass.

No. 6

Diagram No. 6: Continuous expanses of wall (indoors or outdoors) used as a drawing surface. The surface can be covered with blackboard (LeCorbusier, 1968, p. 69) or with linoleum (Department of Education and Science, 1967, p. 57), and be used for chalk drawings, or it can be covered with paper (Park Assoc., 1966) and used with crayons or paint. Portions of an indoor wall can also be covered with felt for use with "stick on" felt letters, animals, cars, etc. The continual presence of this wall allows its spontaneous use by the children at any time during the day. The work surface can be carried up into the teacher's realm for her use.

It is also desirable that at least one easel and table be available throughout the day for either spontaneous use during other program periods or for use by a child whom the teachers feel will benefit from an extended period of play. The wall panels shown above allow this option (Kellogg, 1949, p. 137). The value of spontaneous use is pointed out by Hartley:

It has been our experience that these restless and unhappy children if permitted access to an easel will often dash off a number of paintings in rapid succession and then return to their cots and lie there composed and relaxed. . .Therefore it is wise to arrange conditions so that children can paint when they want to. (pp. 265-266, p. 245)

The art area is obviously a wet, messy area where all surfaces should be chosen to minimize any harm from water, paint, clay, paste, etc. Linoleum, Formica, or oilcloth should protect the tables; oilcloth, ceramic tile, vinyl coating, or enamel paint should protect the walls, and the floor should be surfaced with a resilient material (Pattern No. 12, *The Floor as a Walking Surface/as Furniture*).

Besides the provision for adequate space and working surfaces, the art area will need shelving, water, and clean-up facilities, drying facilities, and display surfaces. Ideally the art area should be served by its own sink or at least a sink peripheral to the area (Pattern No. 15, *Children's Sinks*). This sink should have adequate work-top space to either side for clean-up and mixing. From Hartley:

Mixing the paints should be as much a part of the experience as spreading it on paper. . . Sometimes a genuine interest in painting itself can be aroused by permitting children to help prepare the paint.

When cleaning up is considered fun rather than a chore, children often enjoy it as much as they do the painting. (pp. 266-267)

Pattern No. 4 suggests a maximum degree of self-reliance for the children. Hartley points out this manifestation in the art area:

We would therefore like to suggest that a help yourself program will avoid lengthy, discouraging waits and give the children greater freedom. Ready mixed paints can be kept on a low shelf or table in pitchers with large spouts. Several sheets of paper should be fastened to the easel with clasps, clothes pins or loose-leaf rings rather than thumb tacks. Smocks, aprons, or plastic pouches that do not require buttons, or ties, should be kept on low hooks near the painting corner. (p. 267)

The completed paintings, collages, and clay work can be treated as a product or as process. The product if allowed to dry can be taken home or displayed, giving the child a feeling of accomplishment and recognition. This is especially important to a disadvantaged child (Deutsch, Nimnicht, *et al.*, p. 18). But on the other hand, children can be quite prolific and more interested in the process than the product. It is also impossible to save or display all the children's work due to space limitations. Therefore the teacher, with the children's help, should select a few items to take home or for display. Drying lines or racks will be needed for paintings, a shelf for drying clay objects, and a hanging rack for mobile-type collage items.

The walls of the group play environment should be covered with tackable surfaces to allow the display of the children's art work, science work, or lettering. This surface should not be higher than 4'-0" from the floor since the average standing eye level of a child is about 36" at an age range of 3.0 to 5.0 years (Department of Education and Science, 1967A, p. 48).

Some teachers like to allow painting or clay work outdoors during good weather. This work should take place in the passive area (Pattern No. 32) or under the semi-shelter (Pattern No. 34) and be protected

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The physical environment is a rich source of experience for the children's art work and for dramatic play (Hartley, 1964, p. 25). In an effort to increase this range of experience, trips into the wider community are usually included in the weekly program. Sensual activities can also stimulate art activities. Typical activities would be the manipulation of Montessori material or guided contact with flowers, vegetables, fruits, materials of all kinds, music, etc. From Hartley:

Almost without exception, children who had shown inhibitions with respect to clay seemed to lose them after a severe snowstorm had given them some zestful experience with molding and wielding snow. (p. 214)

Props for Dramatic Play

Dramatic play is a natural activity of children that is especially prevalent during the preschool years (Millar, 1968, p. 55). It is generally agreed that this activity, which includes both symbolic activity with concrete objects (make-believe play) and imitative play, is an important instrument of growth for the child. It serves his psychological growth by allowing him to act out and assimilate important emotional events; it serves his social growth by offering an intimate and personal means of communication; and it serves intellectual growth by providing a means of organizing impressions at a time when the manipulation of abstract symbols is developing (*ibid.*, p. 255; Hartley, *et al.*, 1964, Chapters I and II).

Although there is agreement on the importance of dramatic play, there is not agreement on its role in a preschool program. Some educators working with disadvantaged children feel the preschool program should be directed toward "academic" or "reality" oriented tasks and dramatic play should be left to the home environment where it will automatically occur (Bereiter and Engelman, 1966, Chapter I). Others disagree with this view and suggest the use of dramatic play in the preschool program *for* its cognitive potential (Weikart, 1970A). Therefore, this pattern is only applicable if dramatic play will be *encouraged* in the daily program.

At the typical Children's Center dramatic play is encouraged in the following ways. A housekeeping or doll corner is provided containing *props* suggesting play themes centered on the home, i.e., child-size stove, b chen equipment, dolls, and dress-up Props are also supplied by allowing equipment in the group play enviro serve both its primary function and atic play.

Play with these props can take ing free play in a *free activity choic* gram or they can be used during a t led session in a *slow pace* program. lutions discussed in this pattern are to either program but should be mo the slow pace program to fit the lim on free flow discussed in Pattern N exception would be the use of dram or make-believe play for an activity the children were directed into role *without* props (Weikart, 1970A). O multi-use area in the group play env (Pattern No. 9) would be needed fo tivity.

Several questions have recently raised that suggest a fresh approach kinds of props provided for dramat It has been observed that children f socio-economic classes tend to play centering on the home while more children play games involving a wid trum of topics, including train rides plane trips, construction activities, (Hartley, 1964, p. 25). This has led Centers in disadvantaged areas to ta children on trips into the larger com and it has led others to suggest that housekeeping corner, which is so at and inviting to disadvantaged child should be allowed as an introductio

Dramatic Play

Pattern 20

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themes centered on the home, i.e., child-size stove, bed, kitchen equipment, dolls, and dress-up clothes. Props are also supplied by allowing the other equipment in the group play environment to serve both its primary function and for dramatic play.

Play with these props can take place during free play in a *free activity choice* program or they can be used during a teacher-led session in a *slow pace* program. The solutions discussed in this pattern are applicable to either program but should be modified for the slow pace program to fit the limitations on free flow discussed in Pattern No. 9. An exception would be the use of dramatic play or make-believe play for an activity in which the children were directed into role playing *without* props (Weikart, 1970A). Only a multi-use area in the group play environment (Pattern No. 9) would be needed for this activity.

Several questions have recently been raised that suggest a fresh approach to the kinds of props provided for dramatic play. It has been observed that children from lower socio-economic classes tend to play roles all centering on the home while more privileged children play games involving a wider spectrum of topics, including train rides and airplane trips, construction activities, etc. (Hartley, 1964, p. 25). This has led many Centers in disadvantaged areas to take their children on trips into the larger community, and it has led others to suggest that the housekeeping corner, which is so attractive and inviting to disadvantaged children, should be allowed as an introduction activity and then gradually be eliminated while encouraging the children into different activities (Deutsch, *et al.*, p. 15).

It has also been pointed out that the typical dress-up clothes provided in the housekeeping corner stress either the home or "blue collar" work roles, i.e., fireman, policeman, or railroad engineer. Another stereotype that has been noted is the extent to which the existing roles of men and women are perpetuated in the Children's Center (the boys play with machines and the girls play "house"). Does the provision of a housekeeping corner, especially where there is only one corner, encourage girls toward a housekeeping role and exclude the males from thinking about themselves as fathers? Should the girls be encouraged to play roles now held only by males in the society? (Hartley, 1964, p. 48)

It follows that the Children's Center might be supporting the status quo of society by the provision of a housekeeping corner and its usual props, since the disadvantaged child and the middle-class child will play out only those roles they have experienced in their home environment. We are not arguing against the value of play themes centering on the home but are suggesting that the housekeeping corner supports *too strongly* this limited range of experiences. To widen the child's range of experience, he should be introduced to the larger community outside of his immediate home environment.

If flexibility is a virtue, why not give our children the material with which to be flexible?

Why not break the narrow mold of their thinking by widening their experiences in a realistic fashion? The ideal instrument for absorbing their experiences is dramatic play. Why limit it? (*Ibid.*, p. 51)

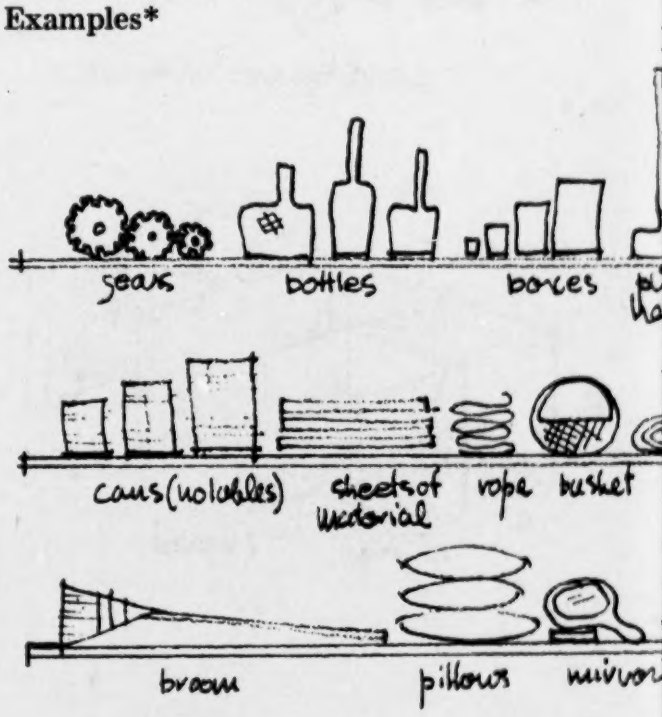
This introduction to new horizons can be accomplished with trips to the community, by bringing the community into the Center (people, T.V., movies, etc.), by a mix of children with differing social and ethnic backgrounds, by the program of activities at the Center, and by the physical environment provided by the Center. The choice of these experiences will reflect the views of society held by the staff of a particular Center.

When this widening of the child's horizon is taking place, what props should be provided for "acting out" these new experiences? We have already pointed out that the housekeeping corner is too supportive of a single set of experiences so it seems to follow that the props for dramatic play should allow the child to act out any situation or role he encounters.

On the one hand we have seen that the children do respond to the suggested reality of the objects found in the housekeeping corner, but they can also use objects *symbolically* at this age with a minimum regard for their functional or presentation qualities (Millar, 1968, pp. 137-157). What determines when a child responds to the function or the qualities of an object and when he ignores these clues does not seem to be known. But this is a moot question since a Center could not hope to provide a reality symbol to match the range of new people, tools, and environments that the child is experiencing.

Therefore a middle ground must be found between a direct representation of an object and an object that is so abstract that it presents no stimulus to the child. This author believes a group of objects can be chosen that are at a level of functional generality where they suggest a variety of man-made objects and functional tasks. Each object should be distinct from one another and present only a few qualities very clearly. To verbally define these objects would be to create a "language of form" but theoretically 1000 of them, if combined, would capture the *basic* presentational qualities of all the objects around us.

Examples*



No. 1

But a question arises at this point. If the equipment and the activities in the Center will also have a secondary use as props for dramatic play, is there any need to provide additional materials, especially if "junk" materials are included with some activities? If these combined materials contain all the

*Basic materials found in the activity areas, i.e., sand, blocks, planks, water, etc., should be considered as available to the children and will not need duplication on the "junk" shelf.

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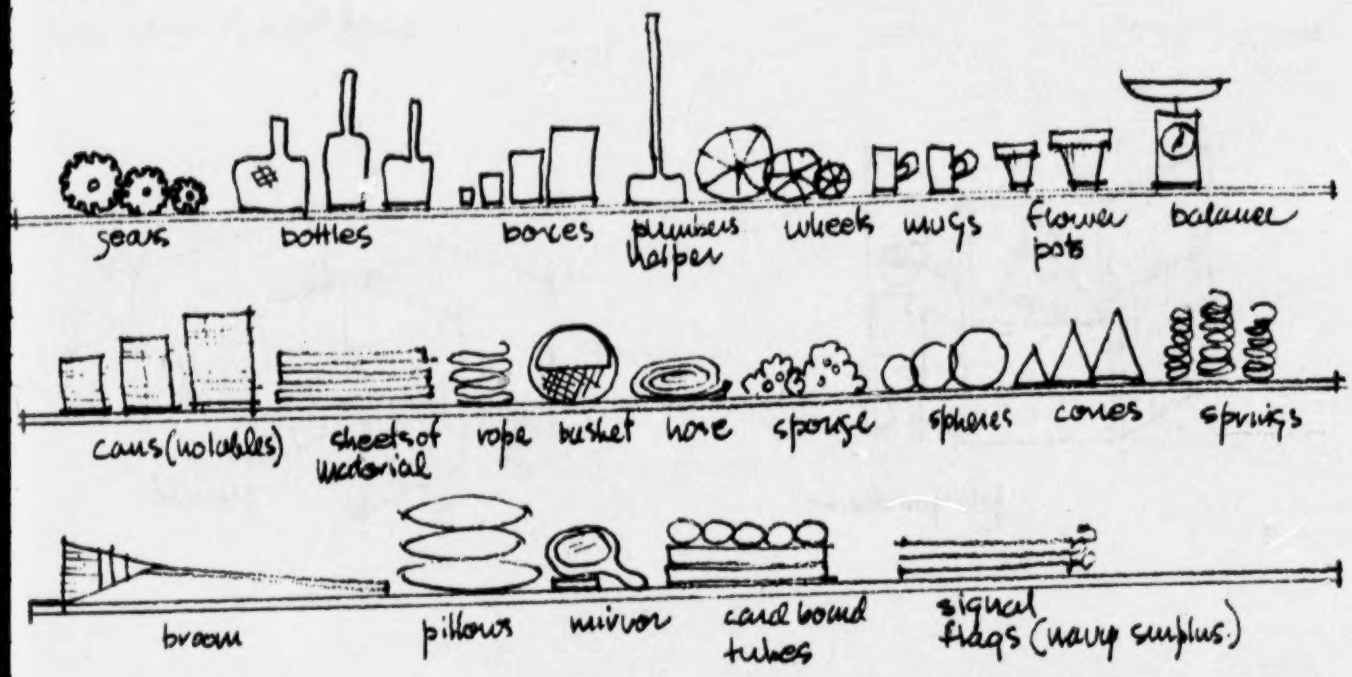


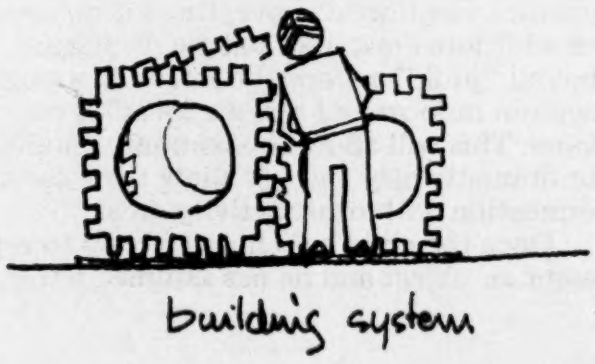
No. 1

But a question arises at this point. If the equipment and the activities in the Center will also have a secondary use as props for dramatic play, is there any need to provide additional materials, especially if "junk" materials are included with some activities? If these combined materials contain all the qualities mentioned above, there is no need for additional material, but we do suggest that all "junk" material be stored in a single location indoors and a single location outdoors. This will allow a maximum stimulus for dramatic play and yet allow their use in connection with other activity areas.

Once the child has chosen a prop to represent an object and he has assumed a role, he may need an environmental prop (a place) to complete the "situation." These supplementary "places" can be created in the following ways:

a) An environment is "imagined" and no "concrete" place is needed. The multipurpose area of the group play environment (Pattern No. 9) and the circulation paths can be used for this play (Hartley, *et al.*, 1964).
b) The "junk" prop storage should be adjacent to the group multipurpose space

*Basic materials found in the activity areas, i.e., sand, blocks, planks, water, etc., should be considered as available to the children and will not need duplication on the "junk" shelf.



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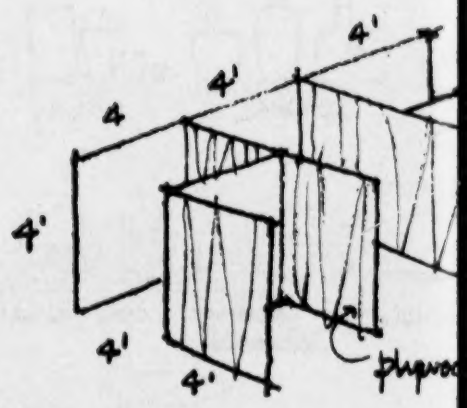

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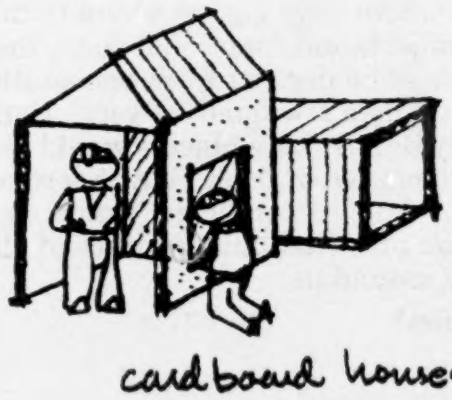

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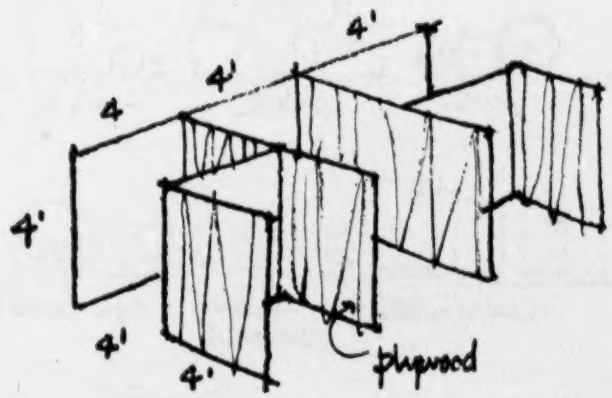


No. 5

of the group play environment in order not to interfere with the specific activity centers.

c) "Junk" props can be taken to an activity center to support the play of that activity.

d) Spaces created to fulfill the need for *Places to Pause for Awhile* (Pattern No. 10) can also serve as an environmental stimulus for dramatic play (high places, cosy places, skinny places, etc.).

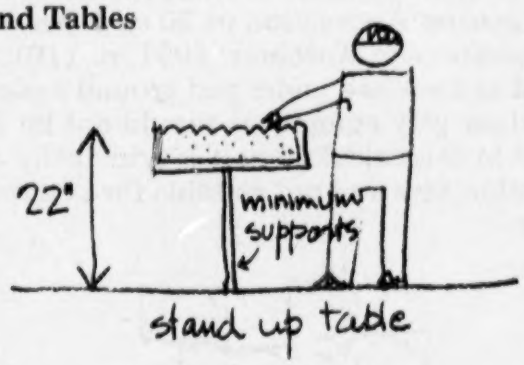
e) Places can be created that serve primarily as environments for dramatic play. These structures could be created by the children from a large-scale building system or from cardboard, or they could be semi-permanent, multi-use elements made of wood, masonite, etc. Examples of these possibilities are shown in Diagrams No. 2 through No. 5.

Diagram No. 5: Another example of a semi-permanent environment for dramatic play is the "play bays" created by Nancy Rambusch for her Child Minders Center (floor plan, appendix). These multi-use alcoves can be utilized for a wide range of potential environments.

Sand/Soil Plus Water

The fact that children enjoy sand play is well established. In studies of play preference it always ranks high on the list (Hole, 1966, pp. 15-17; Moore, 1966, pp. 95, 96). Soil digging is a similar manipulative activity enjoyed by the children. These activities can be provided in a Children's Center in the following ways.

Sand Tables

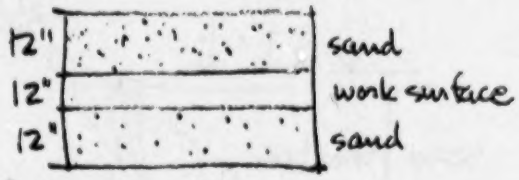


No. 1

No. 2

Sand tables provide play for the child in a stand-up or sit-down position (Diagrams No. 1 and No. 2). This position, as compared with a sand area in which the child is involved bodily, reduces the amount of sand area needed and minimizes the amount of child cleanup. These advantages make sand tables a popular item indoors and a good solution outdoors for use under a semi-shelter or in place of a ground level sand pit in a small play yard.

Child height storage should be available adjacent to the sand table for access to tools and containers for working with the sand. The table should be designed to help contain the sand, and yet provide a flat working surface interior to the table for stacking "sand moldings," tools, and a water can (Diagrams No. 3, 4, and 5).



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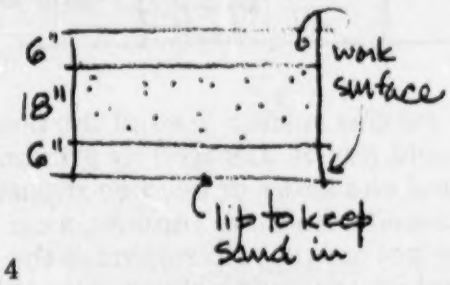

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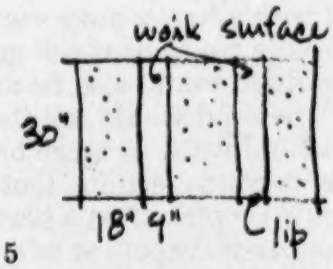


No. 5

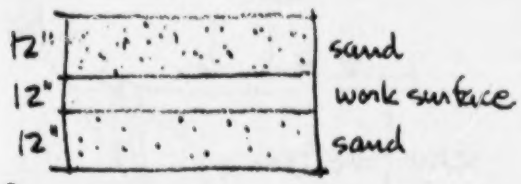
Sand play is popular with the children but it also produces considerable aggression

Water

Pattern 21

nd a good solution outdoors for use under semi-shelter or in place of a ground level nd pit in a small play yard.

Child height storage should be available djacent to the sand table for access to tools nd containers for working with the sand. he table should be designed to help contain he sand, and yet provide a flat working surce interior to the table for stacking "sand oldings," tools, and a water can (Diagrams o. 3, 4, and 5).



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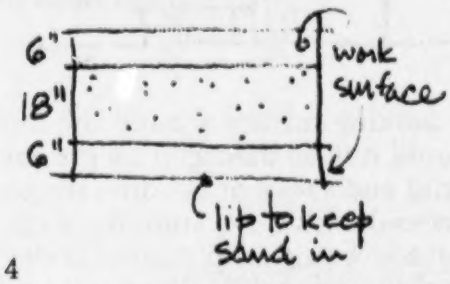
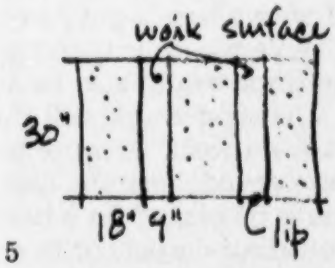


o. 4



o. 5

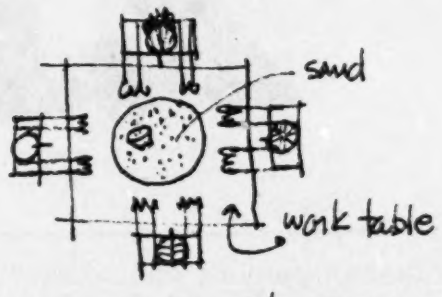
Sand play is popular with the children ut it also produces considerable aggression and quarreling among them (Green, 1933; Aaron and Winawer, 1965, p. 63). The design problem is to minimize the conflicts from overlapping work areas which is more prevalent when children are involved bodily in a sand pit but is still a problem at a sand table. From Moore (1966):

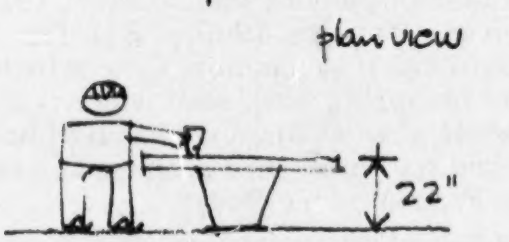
A redesigned pit would have given more opportunity for different groups to operate at the same time without conflicting with each other. The pit would be more complex spatially. (p. 143)

Various solutions have been tried in an effort to minimize this overlap between children. The provision of a flat working surface for each child is the first step toward minimizing conflict and the second would be a sufficient working area for each child without crowding (18 lineal inches minimum). Diagram No. 5 shows one approach to defining a separate area, and others are shown in Diagrams No. 6 and No. 7.

A sand table can be a built-in piece of equipment, a semi-permanent piece of furniture, or it can be placed on wheels for maximum space flexibility. A mobile unit will allow the sand table to be placed against the wall when not in use, but then allow use from all sides when pulled away from the wall (Diagram No. 8). Outdoors, it could be moved to a sunny area on mild days or moved under the semi-shelter on rainy days. With a ramp between indoors and outdoors, the table could be utilized both indoors and outdoors.

Pattern 21/Sand/Soil Plus Water





one to 4 child sand tables from P. Hearst Early Learning Center (appendix)

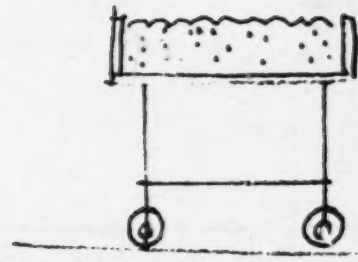
No. 6

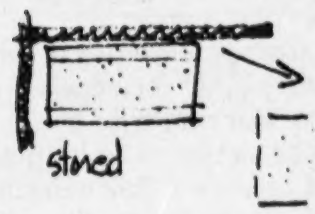
define a child's area. shape gives group feeling but lineal working area.

designed b D. Aaron (see Aaron & Winsor 1965 p100)

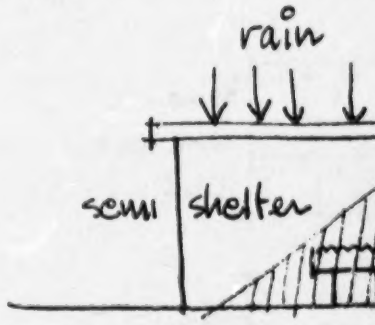
No. 7

If a permanent outdoor sand table is provided under the semi-shelter for use during inclement weather, it should be placed to receive the purifying and drying rays of the sun during some part of the day (Diagram No. 9). Dry, clean sand will then be naturally recycled for use (Pattern No. 10).



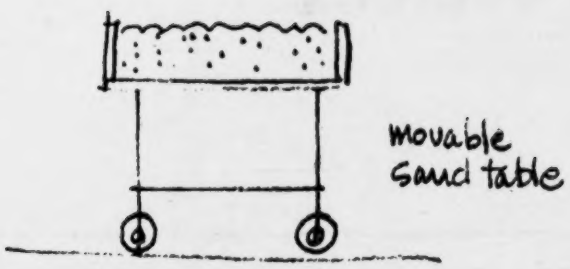


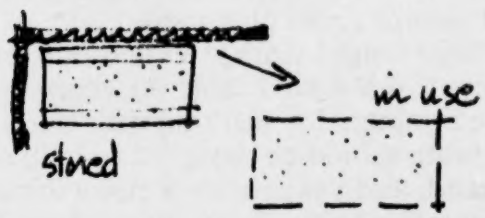
No. 8



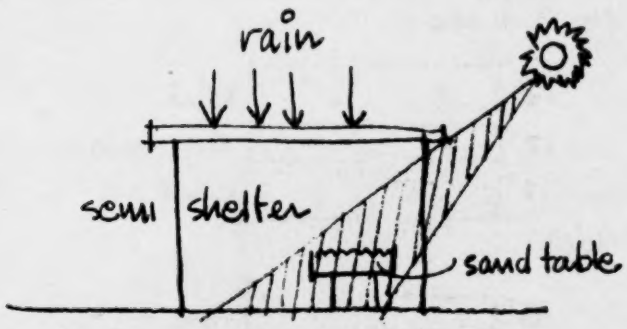
No. 9

The walking surface aroun table should not be damaged b tween sand and shoes or becor when covered with sand. Indo peted surface would help mini up of sand on the child's shoes easily be cleaned with a heavy- sweeper. A removable wood o set flush with the floor would cellent solution. The sand wou and could collect f.. a week o the collecting pan needed clea the sand table could be placed face, on indoor/outdoor carpe of sand (except the mobile typ





No. 8

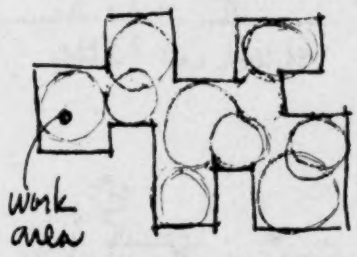


No. 9

The walking surface around the sand table should not be damaged by grinding between sand and shoes or become slippery when covered with sand. Indoors, a carpeted surface would help minimize the pick-up of sand on the child's shoes and could easily be cleaned with a heavy-duty vacuum sweeper. A removable wood or metal grate set flush with the floor would also be an excellent solution. The sand would fall through and could collect for a week or more before the collecting pan needed cleaning. Outdoors the sand table could be placed on a hard surface, on indoor/outdoor carpet, or in a bed of sand (except the mobile type).

Group Outdoor Sand Play at Ground Level*

We have discussed above the need to minimize overlap and conflict between the playing children. The example solutions suggested sufficient area for each child, work surfaces, and special configurations. For the sand table, we recommend 18 lineal inches of working space for each child, but since the outdoor sand pit involves the total body, we will need an area of about 28 sq ft (approximately 3'-0" radius) for each playing child. Because sand play is a popular activity, we might estimate that 50% of a play group may want to be in the sand area at a given time, or 14 sq ft per child. This is slightly lower than the recommendation of the National Recreation Association of 20 sq ft per child (Waechter and Waechter, 1951, p. 110). Sand used as a surface under and around a piece of outdoor play equipment should not be figured in this calculation; it is principally circulation area and not suitable for passive play.

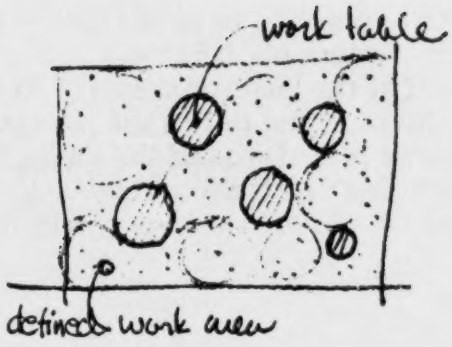


No. 10

Diagrams No. 10, 11, and 12 show additional configurations and work surfaces for reducing overlap in the sand area.

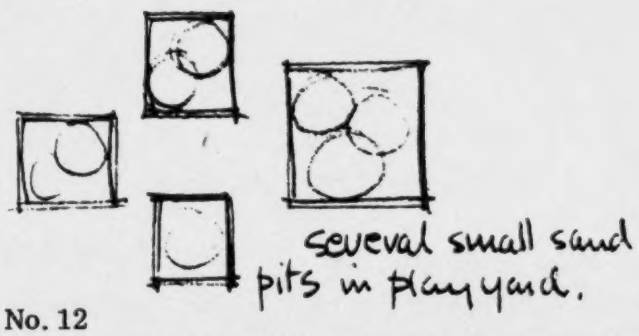
The flat working surfaces for placing molds and equipment can be located interior

*Some Centers, with minimum outdoor play yards, have built an indoor sand area at floor level, but the problem of children tracking sand throughout the indoor play area seems to suggest that sand tables are a more reasonable solution.



work areas defined by work tables.

No. 11



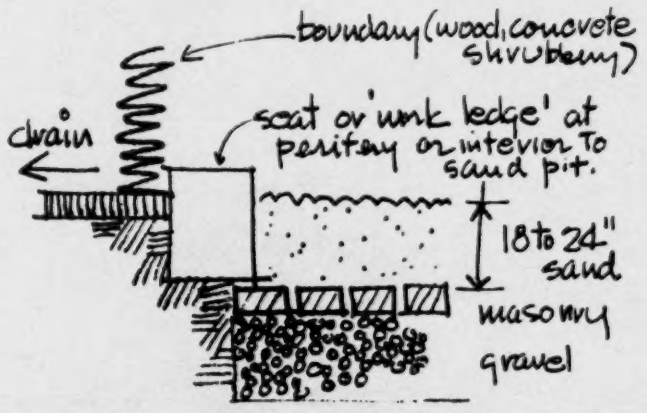
No. 12

to the sand area or at the perimeter.* In a sand area created in a more natural terrain, flat boulders can be utilized as a working surface.

The bounding element of the group sand play area has several functions. It should provide a "sense" of enclosure for the playing children, keep out unwanted traffic, protect the area against water draining from adjacent areas, and help keep the sand within the sand play area. From a playground analysis by Moore (1966):

This element would be redesigned (sandpit). The physical enclosure would be increased for three reasons: to stop 'outsiders' from disrupting activity by running through the sand pit; to increase the sense of enclosure and security, thereby attracting more kids and increasing participation in one of the most important activities (especially from a social point of view); and to keep the sand in the pit. The granite ledge was used so much as a 'table' for building 'castles,' 'pies,' etc., that the sand slowly found its way out of the pit. A redesigned pit would have a wall around its periphery, providing an actual and a sense of enclosure. The ledge would remain —functioning as seat and table. (pp. 142-143)

A boundary can be built of wood, concrete, asphalt, etc., or it may be created in a more natural way within a rolling terrain (Diagrams No. 13 and No. 14). Both the Bing Nursery School in Palo Alto, California and the Early Learning Center in Stamford, Connecticut take this latter approach (see appendix). Drainage in a "natural" solution can be created by placing the sand area on an inclined hill or in a hollow with a well-prepared sub-base or drain.



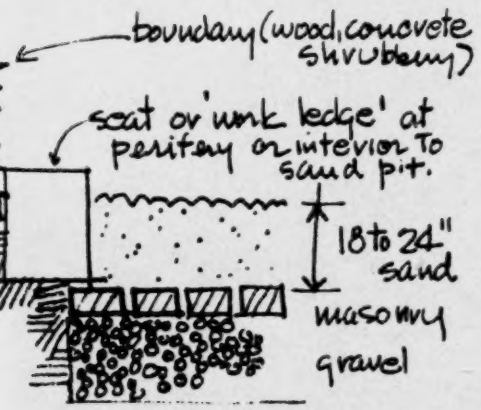
No. 13

When ground water seepage is good, the sub-base for a sand area can be a brick underlayment and gravel sub-base (Diagram No. 13). When ground seepage is poor, or the water table is too high, a dry well should be

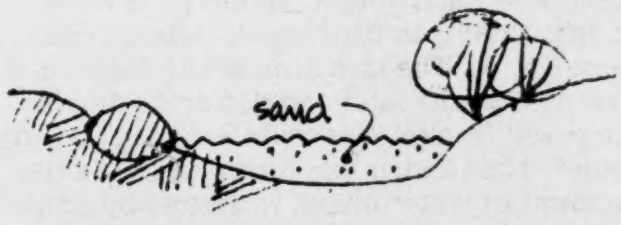
*For examples of many different ledge designs, see Lederman and Trachsel (1968, p. 44).

vity by running through the sand ase the sense of enclosure and ereby attracting more kids and articipation in one of the most ctivities (especially from a social w); and to keep the sand in granite ledge was used so much for building 'castles,' 'pies,' etc., d slowly found its way out of the igned pit would have a wall periphery, providing an actual and nclosure. The ledge would remain ng as seat and table. (pp. 142-143)

dary can be built of wood, con- lt, etc., or it may be created in ural way within a rolling terrain No. 13 and No. 14). Both the Bing hool in Palo Alto, California and earning Center in Stamford, Con- e this latter approach (see ap- ainage in a "natural" solution can by placing the sand area on an in- or in a hollow with a well-prepared drain.



ground water seepage is good, the r a sand area can be a brick under- d gravel sub-base (Diagram No. ground seepage is poor, or the is too high, a dry well should be



No. 14

dug or a drain line installed. An economical solution for placing a sand play area on an existing asphalt surface is to build *up* the sand pit without cutting the asphalt. "Weep" holes will allow water to drain through the bounding element.

If a sand table is not available under the semi-shelter, then at least a portion of the group sand play area should have protection on excessively hot days (a tree?) and should be covered when not in use to keep out rain (Pattern No. 34).

To make sand play more versatile, water should be available to the sand table or a ground level sand pit. From Allen (1968):

Sand is poor stuff to play with when it is bone dry, for it cannot be made into pies or shaped into castles, and it is also unpleasant when thrown about. It should be kept reasonably damp by watering. (p. 36)

But there are limits on the amount of water that should be available to the sand area because the teachers have little time for cleaning children who have "mucked" around in excessively wet sand or dirt. There are also many sifting, pouring, and filling games that can only be played with dry sand.* Therefore, the water source should not flow *directly* into the sand areas but be adjacent to it for filling containers. Outdoors the water source should be at the periphery of the sand pit with the runoff not flowing into the sand

*See the sand measuring device, Pattern No. 22.

area. The water source should be at child height (2'-0") to further self-reliance (Pattern No. 4). The area around the faucet and the path to the sand and dirt areas should be paved to minimize maintenance and dirty shoes. The teacher can further regulate the amount of water mixed with sand by limiting the size of the carrying containers.

If a soil digging area is provided, should be out of the main traffic flo changes in elevation for maximum co tion stimulus, and contain a few bou for "props." The area should be clea lineated from grass and soil areas assi for other activities.

The sand and dirt that remains o child can be washed off in an outdoo

If a soil digging area is provided, it should be out of the main traffic flow, have changes in elevation for maximum construction stimulus, and contain a few boulders for "props." The area should be clearly delineated from grass and soil areas assigned for other activities.

The sand and dirt that remains on the child can be washed off in an outdoor wash area (Pattern No. 17), or in the indoor child wash sink (Pattern No. 15), or it can be scraped off at the play room entry (Pattern No. 33). Steps in and out of the sand pit or cobblestones placed *around* the sand pit will act as "scuffing" surfaces to remove loose sand from the children's shoes (Allen, 1968, p. 36).

Reading, Listening, Manipulative and, Sensorial Materials

In Pattern No. 3 we outlined three basic programs for early childhood education. We distinguished these programs by the relationship of the child to the teacher and by the degree of emphasis on cognitive development. Cognitive development in a highly structured program is centered on the activities of this pattern, the teaching of language, mathematics, and problem solving techniques. The free choice and slow pace programs include cognitive tasks but across a wider spectrum of activities.

Free Choice and Slow Pace Programs

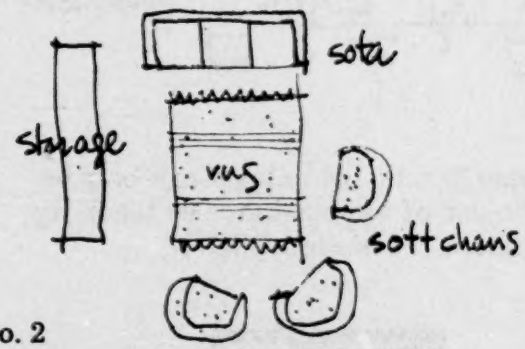
The materials for teaching language, mathematics, and problem solving (reading, listening, manipulative, and sensorial materials) should be stored on child-height shelves adjacent to the use area. The material in these shelves should be displayed distinctly (Pattern No. 11).* The use area is characterized by children working quietly alone or with teacher assistance. A program that includes group language, mathematics, and problem-solving sessions (circle time) will need a large, open floor area in the group play environment (Pattern No. 9).

Example Solutions for Quiet Areas

The following quiet work areas can be equipped with various kinds of educational technology that can be individualized with the use of earphones, cartridges, etc. Other approaches would make a quiet corner out of each piece of equipment or would place all equipment in a central media center.

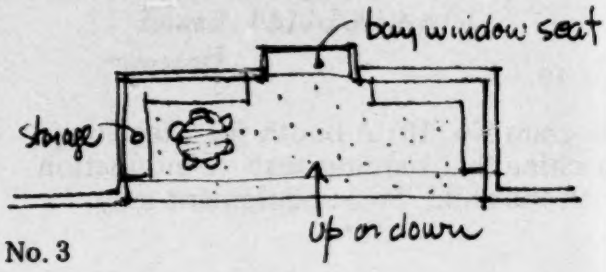
No. 1

Diagram No. 1: A quiet corner with tables. The tables provide individual work areas.



No. 2

Diagram No. 2: A quiet corner (not in a corner) created by a storage unit, a sofa, some big stuffed chairs, and a rug. The corner of the sofa, the chairs, and the rug allow individual work areas.



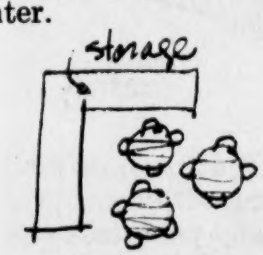
No. 3

*For books, this will mean displaying their front covers (Deutsch, *et. al.*, p. 13).

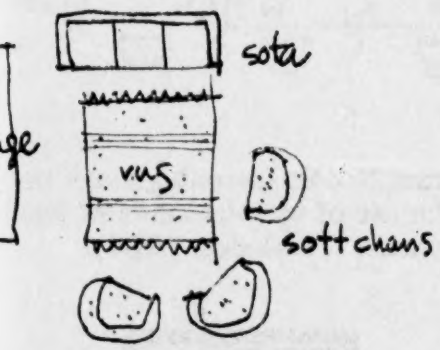
g, l, Sensorial

Pattern 22

ace all equipment in a central nter.



No. 1: A quiet corner with The tables provide individual eas.



No. 2: A quiet corner (not in a created by a storage unit, a sofa, g stuffed chairs, and a rug. The of the sofa, the chairs, and the rug dividual work areas.

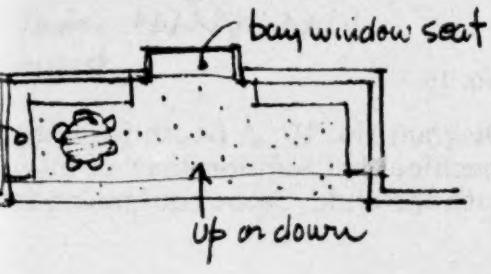
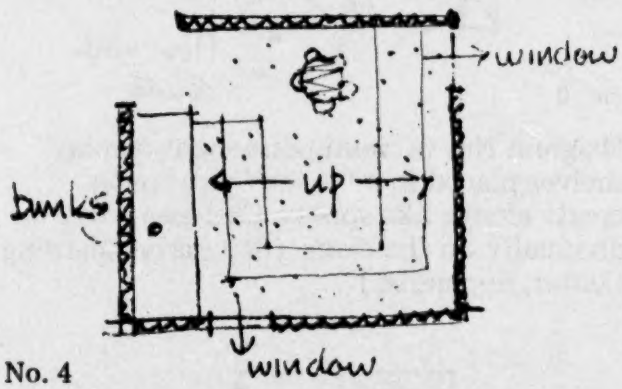


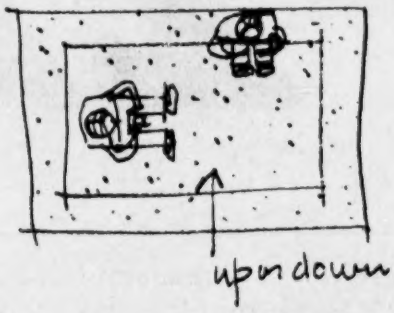
Diagram No. 3: A permanent built-in alcove separated from the play group environment by steps, up or down, by a change of floor texture, or a change of ceiling height. Children work at a table, in a window seat, or on a carpeted floor. (See Eveline Lowe School, appendix.)



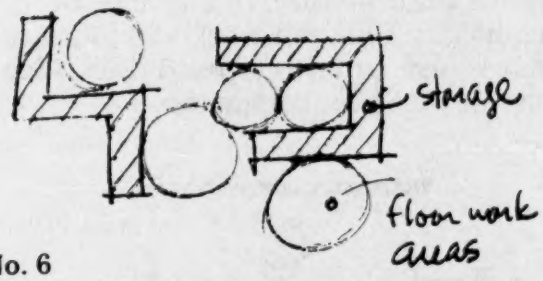
No. 4

Diagram No. 4: A permanent "away" space that can be used for group quiet work, individual work, as a place to pause for a while, or as a napping spot. A "kiva"; Eveline Lowe Primary School, London (Department of Education and Science, 1967A, pp. 34-36). This space does not replace the need for other quiet work areas but acts as a supplement.

Diagram No. 5: A sunken area or raised area within the group play environment utilized for many activities including the quiet activities of this pattern. See Pattern No. 12, *The Floor as a Walking Surface/as Furniture*, and the Early Learning Center and the Lamplighter School (appendix).

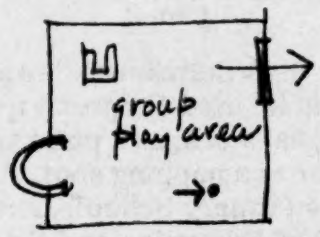


No. 5



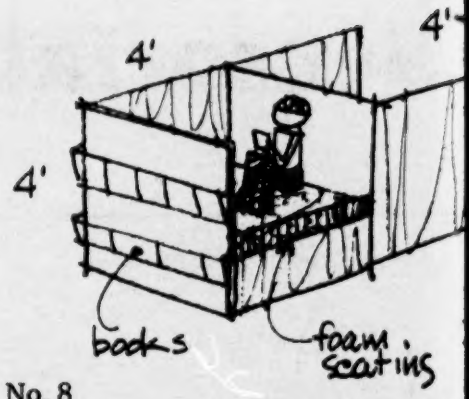
No. 6

Diagram No. 6: Semi-permanent display shelves placed in a "maze" pattern to create alcove-like spaces. Children work individually on the floor. (See Early Learning Center, appendix.)



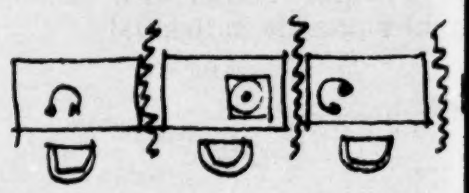
No. 7

Diagram No. 7: Individual away places or *Places to Pause for Awhile* (Pattern No. 10) can be used for quiet work activities. They may be equipped with an electrical outlet (tape recorder, cartridge film, etc.) and a few books to stimulate use.



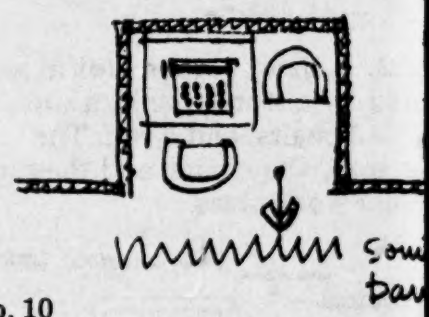
No. 8

Diagram No. 8: Multipurpose re
bays, free-standing within the gr
environment (many postures po
(See Child Minders School, appe



No. 9

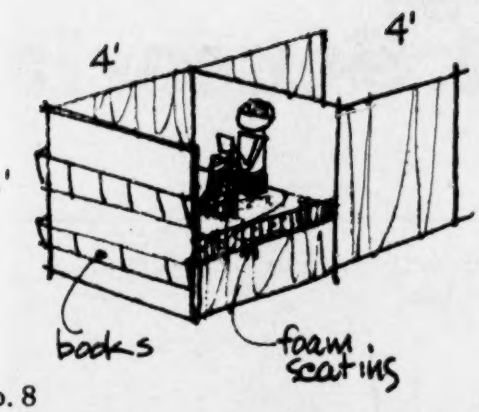
Diagram No. 9: Listening-work
for the use of various kinds of te
equipment (Powledge, 1967).



No. 10

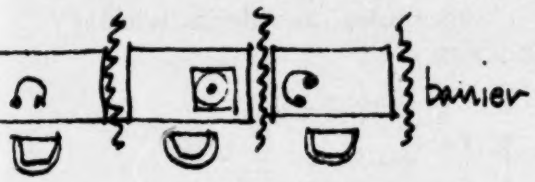
Diagram No. 10: A booth for a
machine that requires teacher in
with the child. Some equipment

Materials



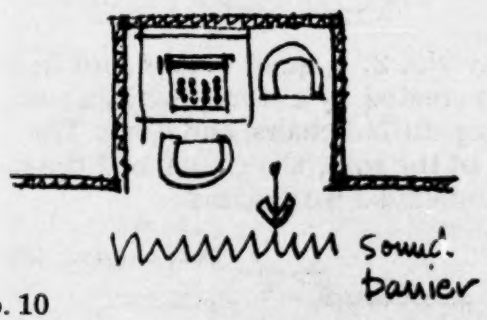
o. 8

agram No. 8: Multipurpose reading
ys, free-standing within the group play
vironment (many postures possible).
ee Child Minders School, appendix.)



o. 9

iagram No. 9: Listening-work booths
r the use of various kinds of teaching
uipment (Powledge, 1967).

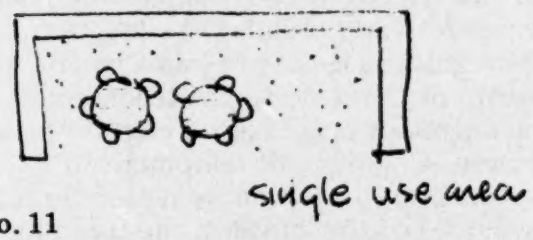


o. 10

iagram No. 10: A booth for a teaching
achine that requires teacher interaction
ith the child. Some equipment may need sound isolation from the group play environment. (See New Nursery School, appendix.)

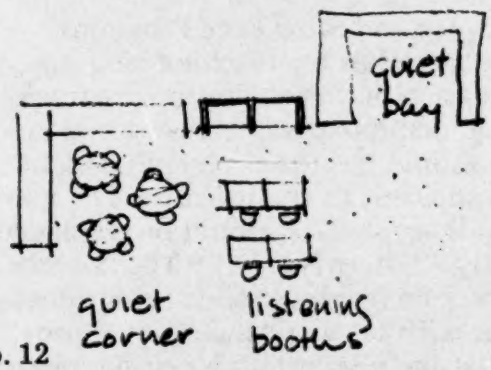
Combined Solutions

All the cognitive materials *could* be located in one area with a single solution from above (Diagram No. 11),



No. 11

or the activities could be *separated* into different areas with different physical solutions (Diagram No. 12).



No. 12

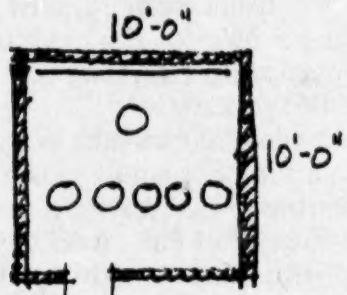
To produce a quiet area, sound isolation is needed from any loud noises generated in other areas of the group play environment (Pattern No. 9). Carpet can be used in the quiet areas to create a mood of softness and relaxation but it is not needed for sound reduction since little noise is produced there (Department of Education and Science, 1967A, p. 93).

The close work involved in the quiet areas require adequate *local* lighting to supplement the over-all lighting of the

group play environment (Pattern No. 29). Local lighting can also provide a sense of individual enclosure for a child working within a group quiet area (Pattern No. 9).

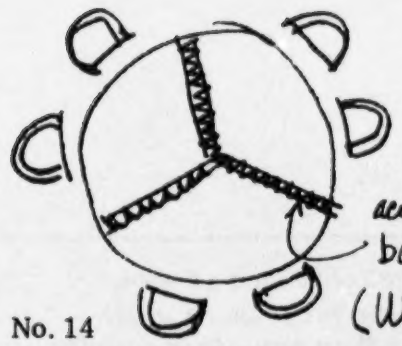
A Highly Structured Program

The teaching of language, mathematics, and problem-solving skills is central to a hightly structured cognitive program. Pattern No. 9 outlined the space needs for a program of this type, and this pattern will add a few details to that description.



No. 13

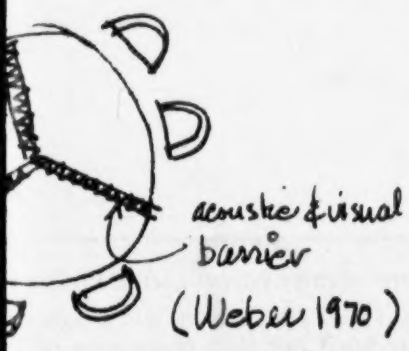
Diagram No. 13: A teaching room is provided for "direct verbal response" sessions (Bereiter and Engelman, 1966; Weikart, 1970A). The room should be no larger than 100 sq ft, be acoustically protected from outside interference, be as plain as possible, and be equipped with only a blackboard or cupboard, depending on the subject taught (Bereiter and Engelman, 1966, p. 71). (See Pattern No. 11 for criteria on material storage in these work rooms.) Quiet reading or work areas similar to those discussed above could be a part of the adjacent "practice" room (Pattern No. 9).



No. 14

Diagram No. 14: Learning module desks for working with language le books. These are the core cognitiv ing devices for several programs (W 1970).

A responsive environment (ta typewriter) is an environment un and could be considered as a smal school in which the child explores displayed materials and gets help f the teacher (the machine) when ne Dr. Omar Moore, the inventor, pre to think of his invention in this wa rather than as a teaching machine. also feels the responsive environme is so superior to other forms of tea language, reading, and typing that should be the only method or piec equipment in the Children's Cente has this goal (Moore and Anderson The high cost of these environmen gests a location central to several g play environments (Pattern No. 9) Computer-aided instruction is ano expensive teaching machine that su gests a similar location. A central l cation also allows the isolation of noisy equipment from the group p



14: Learning modules or
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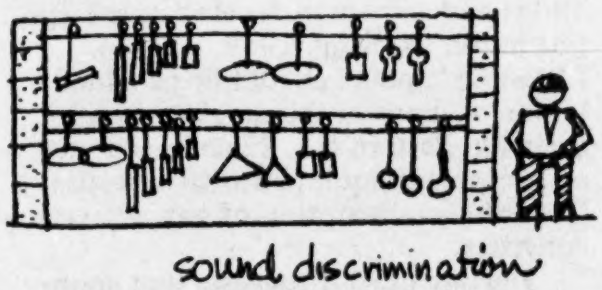
area. For specific requirements on these machines, see EFL, 1970C, pp. 47 and 63.

The Outdoor Play Yard

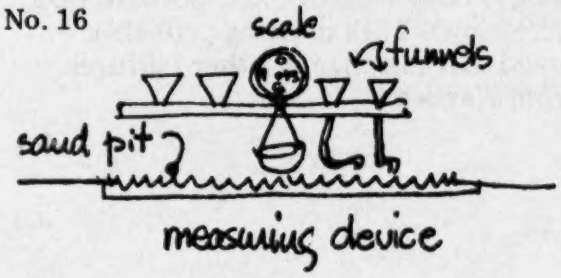
There is an assumption among many educators that the outdoor play yard has an exciting potential for teaching problem-solving skills to the children, although there is little educational or psychological theory to support a design approach. (Loeffler, 1967, p. 19; Dattner, 1969, p. 25; Moore, 1966, p. 130.) This would be large-scale equipment that involved the child *spatially* with a sensorial or problem-solving stimulus. The following diagrams show several experimental apparatus.

No. 15



Eiseman Nursery (Dattner 1969 p 25)

No. 16



Music

In a study of 144 children at 13 different Children's Centers (Hartley, *et al.*, 1964) it was found that music activities had the following variations, with only a few Centers including all possibilities: quiet listening, phonograph or piano playing with child voice or bodily accompaniment, instrument playing, marching to music, and group singing.

Quiet listening allows a child to take a break from the other children (Hartley, 1964) and may help develop music appreciation (Kellogg, 1949, p. 185). Listening "spots" should be provided in one or more of the quiet areas suggested in Pattern No. 22 and each piece of equipment equipped with a headset to minimize disruption of any adjacent activities.

Hartley (1964) suggests that spontaneous dancing should be allowed during free play, as a means to release excessive energy, both negative and positive (joy, aggression). Folk dancing probably served this purpose in other cultures. From Hartley:

> *There seems to be more lack of taneity in the music program of preschool centers than any othe . . . Due perhaps to the tradition and the dance no real middle gr recognized between passive liste skillful performance. The folk a which accepts music as a form o sion for all people is completely in most schools.* (p. 329)

This dancing can either be s by an electronic music source t available to the children during or it can be a group directed ac utilizing an electronic source or In either case an open area of f be needed adjacent to the musi If other activities will be taking concurrently with dancing, the should be physically separate o cally treated to focus the sound the dancing area (Pattern No. 9 with its tactile surface should n used for dampening sound since surface should allow free move although it could be argued tha

Pattern 23

There seems to be more lack of spontaneity in the music program of most preschool centers than any other activity . . . Due perhaps to the tradition of music and the dance no real middle ground is recognized between passive listening and skillful performance. The folk attitude which accepts music as a form of expression for all people is completely forgotten in most schools. (p. 329)

This dancing can either be stimulated by an electronic music source that is available to the children during free play or it can be a group directed activity utilizing an electronic source or a piano. In either case an open area of floor will be needed adjacent to the music source. If other activities will be taking place concurrently with dancing, the dance area should be physically separate or acoustically treated to focus the sound within the dancing area (Pattern No. 9). Carpet with its tactile surface should *not* be used for dampening sound since a dance surface should allow free movement, although it could be argued that carpet is a good dance surface since falling down would be more prevalent than graceful movement. The open area with adjacent music source can also be used for group singing in a program emphasizing music appreciation and tonal development or in a program using music for the development of language skills (Bereiter and Engelman, 1966, p. 210).

Instrument playing can take place in this area or in a separate small music room. A small music room was provided at the Bing Nursery School in Palo Alto (see floor plan, appendix), but without an open area for dancing. The teachers at this center suggest that a room like theirs should only be provided if it is large enough for dancing or a separate music source and dance area is available elsewhere in the group play environment (Conversation, 1970).

The use of music for dramatic play activities (Hartley, 1964) or for quieting a child before his nap or stimulating him after his nap should also be considered when planning the location of the music source(s).

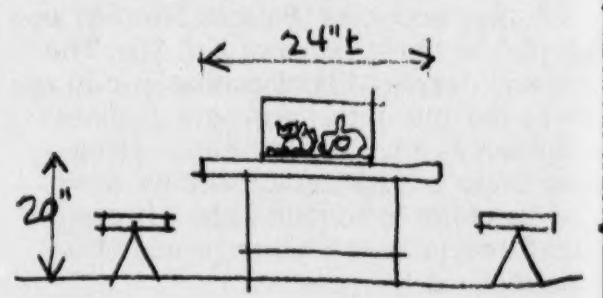
Plants, Animals and Landscaping

The interaction of plants, animals, and children is somewhat contradictory, but hopefully through design and teacher supervision, complementary. The animals and plants need gentle care and freedom to grow, without excessive disturbance, but their placement at the Children's Center is to integrate them into the child's world so he can glean knowledge, understanding, and appreciation of living things (Montessori, 1912, p. 156; Landreth, 1942, p. 159). Therefore, the design of the plant and animal environments should allow contact with children, but minimize the amount of disturbance through this contact.

Animals Indoors and Outdoors

The first way to minimize the amount of disturbance to the animals is to place them out of the main circulation paths, in a quiet area of the group play environment or the outdoor play yard. A container should then be created for each animal, fish, reptile, or bird, that minimizes the need to disturb the inhabitant when viewing or petting him.

For pets that will not be taken from their cages, a viewing area should be provided that minimizes the tendency of a child to poke at the cage in an effort to stimulate the animal into view or into action, although this tendency is somewhat natural and cannot be completely eliminated. Providing seating next to the cage can encourage quiet contemplation; some elbow space will help keep hands off the cage, and all around viewing will minimize the need to poke the animal into view (Diagrams No. 1 and 2).



No. 1

No. 2

Indoor cages for larger animals that will be taken from their cages should also allow for all-around viewing and for viewing by a seated or standing child, but there should be additional protection for the animal after he is taken from his cage. From observations, it appears that animals tend to get injured accidentally when they are allowed to roam around or when a child is trying to catch an animal for placement back in his cage. This implies a contained area where animal and child can play together but small enough to allow an easy capture of the pet. This area can be at ground level around a cage, or it can be a platform attached to a raised cage (Diagrams No. 3, 4 and 5).

Pattern 24

minimize the need to poke the animal into view (Diagrams No. 1 and 2).

No. 1

No. 2

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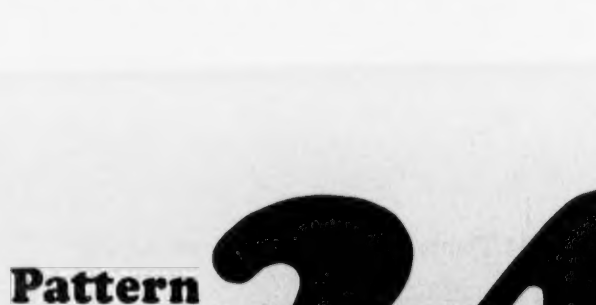
No. 3

No. 4

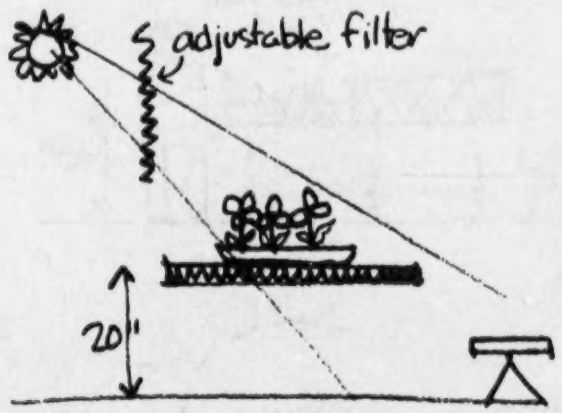


No. 5

Vandalism can be a threat to animals housed in the outdoor play yard. The design team should assess the problem

and develop an appropriate solution. A minimum solution would provide only containment in a locked cage. For greater protection, the pets could be placed in an enclosed outdoor courtyard (Pattern No. 32) or limited to the indoor play areas. Another approach would provide a mobile zoo that would travel to a different Center each day. Besides solving the vandalism problem, it would increase the range of available animals, and since the zoo would be accompanied by a knowledgeable caretaker, increase the animals' educational potential (although it would not allow the child to learn through caring for the animals). A similar zoo makes the rounds of the parks in London, England, during the summer months (Allen, 1968, p. 83).

Plants Indoors



No. 6

Plants will need a working/viewing surface for plant trays. Here the children can plant seeds and root starts and watch them grow from day to day. A surface 20" from the floor will allow this dual purpose. The plants will need varying amounts of sun so the sun source should have an adjustable filter to allow for daily and seasonal adjustments (Diagram No. 6).

For a list of inexpensive m
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and Churchill (1966).

Gardens and Landscaping

The outdoor play area
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For a list of inexpensive methods to provide for plants and animals, see Leitman and Churchill (1966).

Gardens and Landscaping

The outdoor play areas can add to the child's study of growing things begun indoors by providing a wider variety of vegetation and by allowing an increased scale of gardening. Outdoor landscaping also provides shading and wind protection to the play activities (Pattern No. 34) and soft play surfaces (Pattern No. 35). The type and degree of landscaping should relate to the amount of greenery available in the target area. In an urban environment there will be less experience available for children to study plant life and therefore a greater need to provide this experience at the preschool.

From Hole (1966):

Features associated with parks, or the open countryside, flowers, grass to play on, trees, animals, woods to walk in, were mentioned more frequently by children living in Islington and Finsbury. These two boroughs are the most built-up of all areas included in the study, having 0.29 and 0.43 acres of open space per thousand inhabitants respectively. The corresponding figures for other areas range from 1.95 to 7.62 acres. It is not too fanciful to suggest that children in these heavily built-up areas felt the need for some alternative to the predominant bricks and concrete in their environment, but the case cannot be regarded as proved. (p. 30)

And from Landreth (1942):

The young child's interests in, and familiarity with plant life are necessarily affected by his environment. In a large city it may be very limited. The nursery school makes its major contribution to the young child's enjoyment and interest in growing things through the planting in the nursery school yard. (p. 166)

But opposed to this need for extensive play yard landscaping is the tendency of urban Children's Centers to have small play yards due to the high cost of land. Planting in a small area will be limited and harder to keep alive due to excessive wear and tear and the cost of land forces some Centers to have play yards on rooftop surfaces where planting is limited.*

There are several approaches to providing planting within a confined urban space but let's first look at an unconfined play yard. The Bing Nursery School in Palo Alto, California, has a play yard of rolling grass hills and local play environments spotted here and there in a hollow or on a slope. The area is of sufficient size that no part of the grass surface or the landscaping gets excessive wear (500 sq ft per child). For other unconfined play yards, see Utzinger (1970, p. 19) and EFL (1970 B).

But in Pattern No. 30, we recommend 150 sq ft of outdoor play space per child. A play yard of this size will provide sufficient play area for the children but does not allow for extensive amounts of landscaping, especially large grass areas. For a play yard at or below our recommended minimum, the following suggestions

*The limitations of the urban play yard have led some Centers to embrace the opposite point of view—lack of landscaping has its advantages. From Kellogg (1967): "Lack of trees and shrubs means there are no fallen dirty leaves to taste; no need to teach that shrubs are only to be seen, not touched and thereby damaged."

of Dr. Landreth are quite appropriate.
(Landreth, 1942)*:

Though the planting area may be limited there are infinite possibilities. Walls offer areas for creepers, for variegated ivy on trellised frameworks, honeysuckle, trumpet vine, and creeping fig. Arbors present interesting possibilities of treatment: wisterias and grape vines are two of many. Window boxes with removable insets provide for changes. Begonias, lobelias and nasturtiums make a splash of color. Hedges can be chosen for their interest as well as their screening properties; Acadia longfolia *and* Spiraea Van Houttei *meet both requirements. Delphinium, hollyhocks, and sunflowers are colorful background plants, cotoneasters have flowers and berries but no thorns: Lilac, daphne, magnolias, orange, lemon and other fruit trees, mountain ash, and pepper trees have a varied appeal during the different seasons. A small rock garden, a primrose bank, or a water garden are other border possibilities.*

For patios or porches, tub plants make possible change and variety. Geraniums, tulips, daffodils, fuchsias, and English lavender do well in tubs and may be removed during their off-season.

Growing things can be brought inside. A window with an uninteresting outlook often makes an excellent spot for a window garden. Plants at a level the children can see and reach to water give pleasure during the winter months. Lunch tables may be inexpensively brightened by the foliage from a mixture of carrot, beet, and parsnip tops in a flat dish.

An indoor trellis for philodendron or a screening of sweet potato vines around the windows gives the plants a structural relationship to the room. Bowls of berries, bittersweet, Chinest lanterns, gourds and corn, sprays of forsythias, fruit blossoms, and willow catkins help to bring autumn and spring indoors. (p. 167)

Another approach in an urban area would be the provision of a nature area adjacent to or available within a short walk or bus ride from the Center. This area could be shared by other Children's Centers and the general community* (Allen, 1968, p. 79). From Moore (1966):

On a small, densely populated site the odds are that a fully integrated natural environment would not stand up to wear and tear (except mature trees). More likely, the natural area would have to be sharply divided off from the rest of the playground. (p. 139)

And from Stone and Rudolph (1970):

Some years ago, a questionnaire was directed at a group of college students who long before had attended a university nursery school together. Group members were asked what they remembered best about their nursery school. They agreed that among the most memorable experiences were days

*Underlining by author.

*A way-out project being undertaken by Dr. Omar Moore is the development of an eight acre nature area into a "responsive environment." The area will be programmed with technological devices that do not disturb the ecology or visual beauty of the area but do guide the children on self-learning trips.

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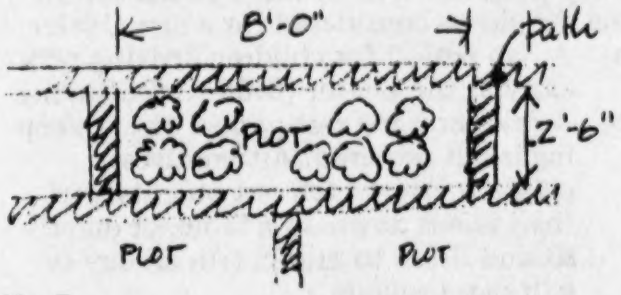
And from Stone and Rudolph (1970):

Some years ago, a questionnaire was directed at a group of college students who long before had attended a university nursery school together. Group members were asked what they remembered best about their nursery school. They agreed that among the most memorable experiences were days spent at a nearby nature center. Yet the school itself not only had an excellent program but also featured an outdoor play space planted with flowers, grass and trees. (p. 40)

Outdoor garden plots are an excellent way to satisfy a child's instinctive desire to grow things (Allen, 1968, p. 79), but there is disagreement over the value of this effort for under-5 children, especially in a 3-hour program, or in a small play yard, or in a community with a high degree of vandalism. If a gardening area is provided, it should be divided into plots of about 2'-6" wide by 8'-0" in length (Diagram No. 7).



No. 7

This dimension will allow maximum frontage for each child and a minimum need to step into the planted area. A brick or stone path will help delineate the plots and allow work from the path when the ground is muddy (Allen, 1968, p. 80). The garden plots should have full sun and an adequate number of water sources.

To protect the area from vandalism (both animals and children) the garden area could be placed in an interior courtyard or be surrounded by a fence.

*A way-out project being undertaken by Dr. Omar Moore is the development of an eight-acre nature area into a "responsive environment." The area will be programmed with technological devices that do not disturb the ecology or visual beauty of the area but do guide the children on self-learning trips.

'68

Naps

Few indeed are the children who after a short period of nursery school experience do not regularly go to sleep (at nap time). And this is as true for the four and five year olds as it is for two year olds. (Kellogg, 1949, p. 199)

The inclusion of rest periods in the daily program varies between Children's Centers and varies with the length of the daily program. One or more of the following should be considered for a new Center:

a) A nap period for children arriving very early at the Center (6:00 to 8:00 a.m.).
b) A mid-morning rest period where sleeping is not required. Alternatives: children can stretch out on cots, put their heads down on a table, or quietly sit and listen to music. (An all-day or half-day program.)
c) An afternoon nap period (1 to 2 hours) for an all-day program.
d) A mid-afternoon rest period for a half-day program. For alternative rest positions see (b) above.

After determining the number, time, and length for nap periods the following alternatives should be considered as sleeping accommodations.

Napping Area (Single Use)

Landreth and Moise (1949) argue for a separate sleeping area:

Even in a half-day program, vigorous activity calls for a period of rest. The value of the rest or the nap period depends in no small measure on the adequacy of the physical facilities for resting . . . A separate rest room not only makes better rest conditions for young children, it saves teachers the back breaking job of putting cots up and down or laying down and picking up sleeping pads in a play room.

And from Landreth (1942):

In an all-day program nursery school, provision for sleeping attempts to duplicate both the comfort and privacy of home sleeping conditions. (p. 32)

The provision of a separate sleeping area also has the advantage of allowing the group play environment to be cleaned and reprogrammed while the children are sleeping (Pattern No. 11, *Presentation and Storage of Play Materials*), and it allows for variation in the sleeping habits of the children.

To provide a quiet, comfortable home like environment, the sleeping area should be isolated from noise in adjacent areas, allow control of artificial and natural light, and provide a cot or built-in bed for each child. The teachers will need circulation space between the individual sleeping areas to provide assurance to the child as needed.*

*Some educators and designers have suggested a combined sleeping and work area for each child (a "nest") which includes a place to nap, a work surface, a chair, etc. (Berkeley, 1970; Quail, 1970). Rough designs indicate that this could be accomplished in an area of approximately 35 sq ft (including circulation). Theoretically it would be possible to stack these "nests" and reduce the square footage to approximately 17 sq ft per child. This author knows of no Center that has tried this solution but the arguments for this are

Pattern 25

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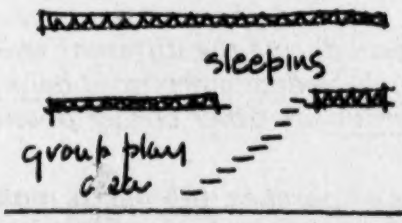
A separate sleeping area distinct from the group play environment has the further advantage of allowing the child a change of spatial locus. As an adult it is quite frustrating to be stuck in one space for a lengthy period of time, and this author thinks it equally frustrating for a small child, especially in an all-day program. The outdoor play yard gives some relief but a variety of indoor space would also be helpful in minimizing this feeling of confinement. This variety of space is limited by the need for teacher supervision (Patterns No. 4 and 9).

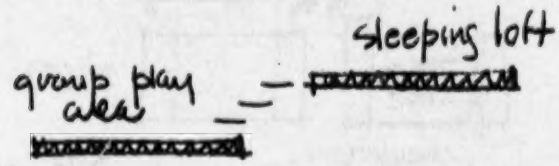
Solution Alternatives



No. 1

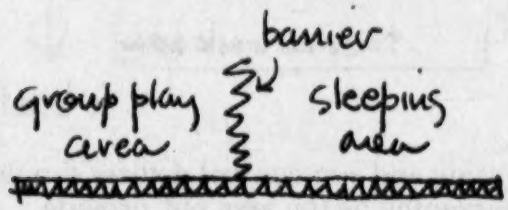
*Some educators and designers have suggested a combined sleeping and work area for each child (a "nest") which includes a place to nap, a work surface, a chair, etc. (Berkeley, 1970; Quail, 1965). Rough designs indicate that this could be accomplished in an area of approximately 35 sq ft (including circulation). Theoretically it would be possible to stack these "nests" and reduce the square footage to approximately 17 sq ft per child. This author knows of no Center that has tried this solution but the arguments for this approach point to a child's need for privacy and a place of one's own (especially disadvantaged children) and for a place that could reflect the child's individual rhythm. Arguments against this idea (especially for under-5 children) feel it isolates children at a time when socialization is beginning to develop; that it would provide too much contrast with the home by being a substitute for the home, and in fact these places would be ignored by the children since they would prefer group or parallel play. This of course is apart from the added square footage and play materials needed for each child. The patterns in this book support the latter arguments but recognize that this solution would be a valuable experiment which could produce some surprising results.

Diagram No. 1: A second level (up or down) can be used as a sleeping area. An existing stair in an old house should be carpeted or redesigned to provide a safer rise and run for the children. If there was sufficient space, a ramp could be installed. For a new Center, a ramp or a child-scaled stair should be installed. Fire exiting from the second level should be considered. Some codes will not allow second level use in Children's Centers except in a building with fireproof construction.



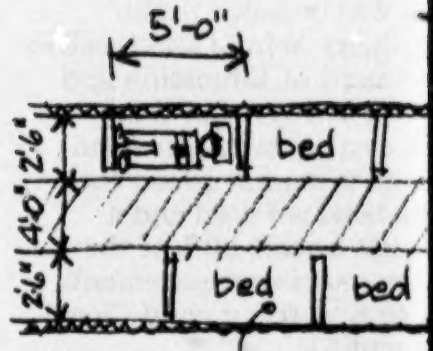
No. 2

Diagram No. 2: A half-level solution that minimizes the amount of vertical travel. This can minimize accidents and allow, if desired, supervision from the group play environment. This solution may be more acceptable to local code authorities.



No. 3

Diagram No. 3: A same level solution with a sleeping room adequately separated from the group play environment.



No. 4

Diagram No. 4: "Pullman" ty
quires 22.5 sq ft per child. Be
the wall will facilitate floor c
(Landreth and Moise, 1949).
plan, appendix.)

No. 5

Diagram No. 5: Bunk-type be
the amount of space footage
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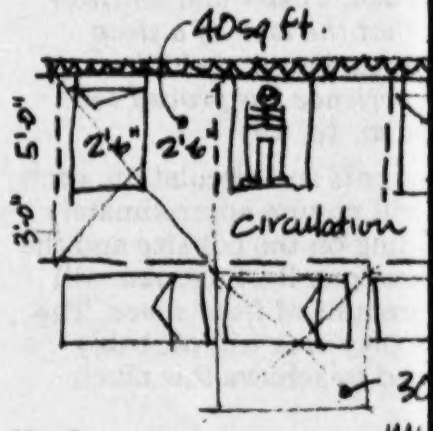

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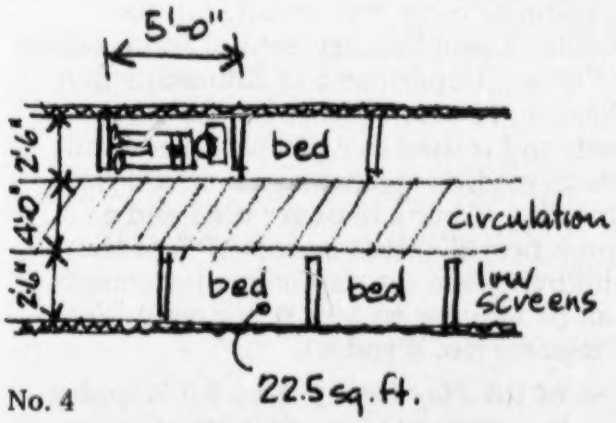
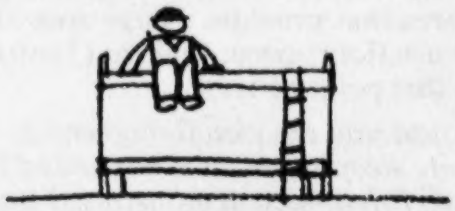


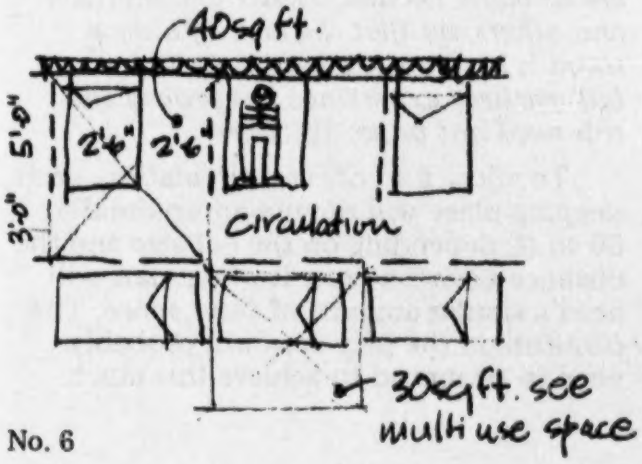
No. 4

Diagram No. 4: "Pullman" type room. Requires 22.5 sq ft per child. Beds hung off the wall will facilitate floor cleaning (Landreth and Moise, 1949). (See unit plan, appendix.)



No. 5

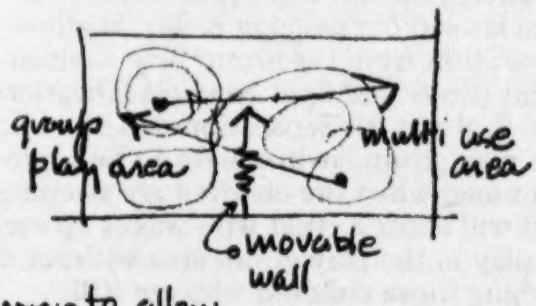
Diagram No. 5: Bunk-type beds will reduce the amount of space footage needed in the pullman scheme to approximately 11 sq ft per child.



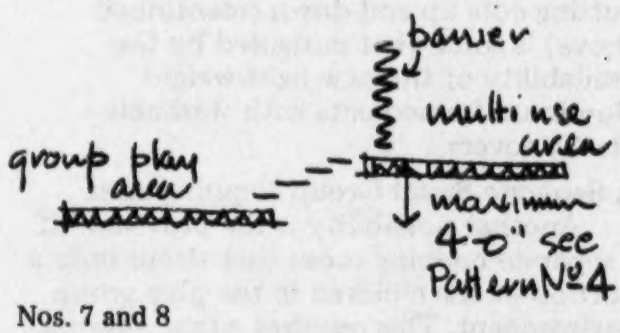
No. 6

Diagram No. 6: Cots or beds placed in an open space with or without low screens between individual sleeping places. Requires 30 and 40 sq ft per child depending on the degree of separateness between places.

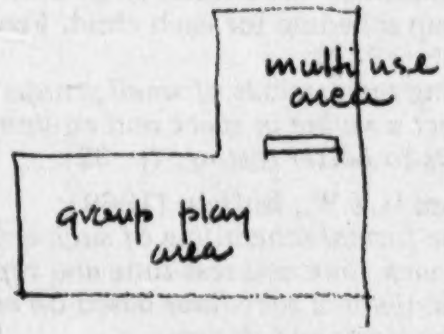
Separate Napping Area (Multi-Use)



barrier to allow free flow & supervision when open / acoustic & light control when closed.



Nos. 7 and 8



No. 9

This solution would provide a space adjacent to the play group environment that could be used for sleeping and other activities. When the area is used as an extension of the play group environment for these activities, the two spaces should overlap to allow free flow of the children and supervision by the teachers (Pattern No. 9), but when the area is used for sleeping it should allow separation from the group play environment (noise and light control) (Diagrams No. 7, 8 and 9). Separation will also allow the play group environment to be reprogrammed when the children are sleeping and will allow a child who wakes up early to play in the play group area without disturbing those children who are still sleeping.

The multi-use quality of the napping area will require the use of movable cots or sleeping pads. The labor involved in putting cots up and down (mentioned above) is somewhat mitigated by the availability of the new light-weight aluminum framed cots with washable plastic covers.

A Separate Small Group Napping Area

Another possibility is the provision of a separate napping room that sleeps only a portion of the children in the play group environment. This requires either alternating small groups of children or an individual nap schedule for each child. From Landreth (1942):

Staggering rest periods of small groups will effect a saving in space and equipment and leads to better resting. (p. 32)

And from H.E.W., Buffalo (1969):

Drop the formal scheduling of such activities as snack time and rest time and replace it with individual schedules based on each child's interests and desires.

A similar room was installed in th Eveline Lowe Primary School and i a "kiva" (Department of Educatio Science, 1967A). The room has bu beds and is used as a getaway place group reading area when not in use sleeping. If bunk beds are used and room provided that houses 50% of children, then the napping require can be reduced to 6 sq ft per child Diagrams No. 4 and 5).

Use of the Play Group Area for Na

In contrast to a permanent slee area or a multi-use room adjacent t play group area, there are those wh for the economy of having only on group area for both play activities sleeping. This approach requires th stackable cots and a solution to th play area that provides a large area multi-use floor space. Kellogg (194 ports this point of view:

No doubt you are wondering why separate sleeping room is not adde the list. It has been demonstrated good program does not require a s sleeping room. Building, maintaini heating a room to be used only tw a day is wasteful, and is prohibitiv urban situations where nursery sch are so badly needed. Foster and M and others say that the lack of a s room is hard on teachers and child but wartime experience has prove this need not be so. (p. 19)

To allow for cots and circulati sleeping place will require approxi 30 sq ft, depending on the cot size distance between cots. Resting ma need a similar amount of floor spa furniture in the play area will pro need to be moved to achieve this

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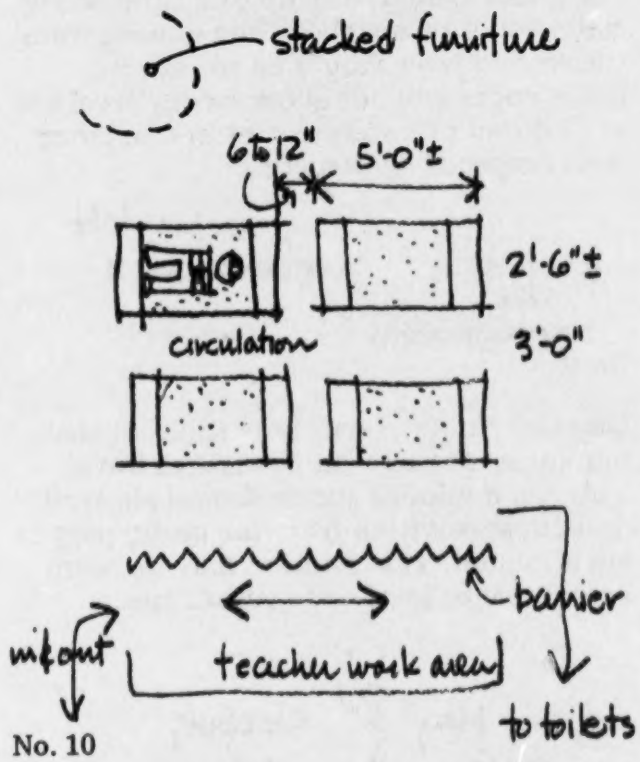
Use of the Play Group Area for Napping

In contrast to a permanent sleeping area or a multi-use room adjacent to the play group area, there are those who argue for the economy of having only one play group area for both play activities and for sleeping. This approach requires the use of stackable cots and a solution to the group play area that provides a large area of multi-use floor space. Kellogg (1949) supports this point of view:

No doubt you are wondering why a separate sleeping room is not added to the list. It has been demonstrated that a good program does not require a separate sleeping room. Building, maintaining and heating a room to be used only two hours a day is wasteful, and is prohibitive in urban situations where nursery schools are so badly needed. Foster and Mattson and others say that the lack of a sleep room is hard on teachers and children but wartime experience has proved that this need not be so. (p. 19)

To allow for cots and circulation, each sleeping place will require approximately 30 sq ft, depending on the cot size and the distance between cots. Resting mats will need a similar amount of floor space. The furniture in the play area will probably need to be moved to achieve this much open space. The size of the total room should allow this stacking of furniture to one side and yet allow teacher circulation in the preparation room (Pattern No. 16), child circulation to the toilets, and flow in and out of the room (Diagram No. 10).



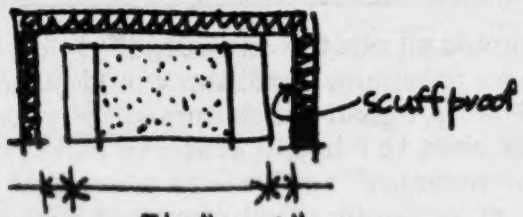
No. 10

Lighting and sun control devices should allow darkening of the area but provide enough lighting for the concurrent activities mentioned above (see Pattern No. 29).

An alcove should be provided for a child who needs additional rest or the isolation room could be used for this purpose (Pattern No. 26). Kellogg (1949, p. 199) suggests this need for rest may signal an oncoming sickness and use of the isolation area will provide early protection for the other children.

Cot Storage

Any solution using stackable lightweight cots will need a storage area for these cots. Cots when stacked provide an attractive but dangerous climber to the children. Therefore a storage area is needed that minimizes this danger but allows the easy movement of cots in and out. The interior face of the alcove should be covered with a scuff-proof material to minimize damage from cot movement, i.e., resawn plywood, Formica, etc. (Diagram No. 11).



No. 11

Blanket storage can be provided in the cot storage area or at the child's locker (Pattern No. 13). Many European Children's Centers use *built-in* fold-out cots. These solutions are quite ingenious but too expensive in our high-cost labor market.

A program that uses resting mats will need a storage bin for each rolled mat

that minimizes this danger but allows the easy movement of cots in and out. The interior face of the alcove should be covered with a scuff-proof material to minimize damage from cot movement, i.e., resawn plywood, Formica, etc. (Diagram No. 11).

Blanket storage can be provided in the cot storage area or at the child's locker (Pattern No. 13). Many European Children's Centers use *built-in* fold-out cots. These solutions are quite ingenious but too expensive in our high-cost labor market.

A program that uses resting mats will need a storage bin for each rolled mat (12" x 12" x 24"). This bin can be included with a child's individual locker or placed in a group bin.

Outdoor Sleeping Area

A solution quite popular in Europe and England is the use of the outdoors for napping on warm days, but with protection from excessive sun and wind. This does not eliminate the need for an indoor sleeping area, but if outdoor sleeping is quite common it could affect the decision regarding the type of indoor sleeping area and the type of bed (outdoors sleeping will use portable cots).

The Sick Child

A room is needed in a Children's Center in which to place a child who becomes ill or who the teacher suspects is getting an illness that may be communicated to the other children. When there is a mother available at home to pick up the child, the child stays only in the health area (isolation room) until the mother arrives. But for an all-day program, it is an open question whether the child who is not seriously ill should remain in the isolation area under adult supervison or be picked up by a reluctant working mother. This mother may be required to return to her job and thereby be forced to leave her child unattended or in the care of a brother or sister (Pacific, 1970, p. 109). McConnell (1966) comments on this dilemma:

Presumably this standard (immediate pick-up of a sick child) has imposed no particular hardship on the middle class clientele primarily served by the commercially based programs predominant in this country. It is now hard up against the realities of the poverty group—that it is a financial disaster to miss time from work to care for a sick child. It appears to the author useless to discuss the matter in terms of instilling 'a responsible attitude' in parents toward the health needs of their children. In fact, a responsible attitude may be hard to measure when the needs of an individual child are weighed against the hardship to the other children in the family if the mother does not work.

This problem of the working mother has led to think in terms of day care of the sick child. T California, is considerin "homemakers" who wo short notice to care for home (Pacific, 1970, p. been suggested in that s that the mildly convale at the Children's Cente From Pacific (1970):

It is recommended that extend the use of 'sick children who are conva ill. . . . Since such an iso be provided, and since nose on the third day o less hazard to the other program than a sympto is about to develop a st viral infection, it seems mildly ill children to at group care programs. (p

An alternative prog launched in San Diego care for the sick child b home setting at Childre (Day Care Council, 197

Therefore, care of t Children's Center must relation to other progra community. A maximu be an all-day program t

ild

Pattern 26

This problem of the sick child and the working mother has led some communities to think in terms of day care that includes care of the sick child. The City of Berkeley, California, is considering a system of trained "homemakers" who would be available on short notice to care for a sick child in his home (Pacific, 1970, p. 111). It has also been suggested in that same community that the mildly convalescing child be kept at the Children's Center in "sick bay." From Pacific (1970):

It is recommended that group programs extend the use of 'sick bay' to include children who are convalescing or mildly ill. . . . Since such an isolated area must be provided, and since a child with a runny nose on the third day of a cold represents less hazard to the other children in a group program than a symptom-free child who is about to develop a strep throat or other viral infection, it seems reasonable to permit mildly ill children to attend their regular group care programs. (p. 110)

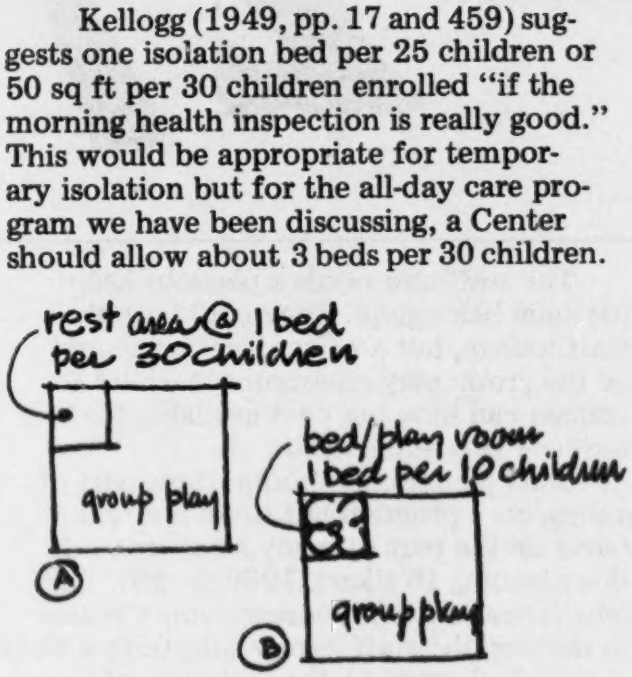
An alternative program has been launched in San Diego that will provide care for the sick child but in an away-from-home setting at Children's Health Center (Day Care Council, 1970).

Therefore, care of the sick child at a Children's Center must be considered in relation to other programs available in the community. A maximum condition would be an all-day program that had a policy of keeping all but the critically ill children, and a minimum condition would be an all-day program which immediately took a sick child to a health center or called the "homemaker" service for a pick-up. Another minimum situation would be a half-day program where children were picked up by a parent soon after diagnosis and a telephone call.

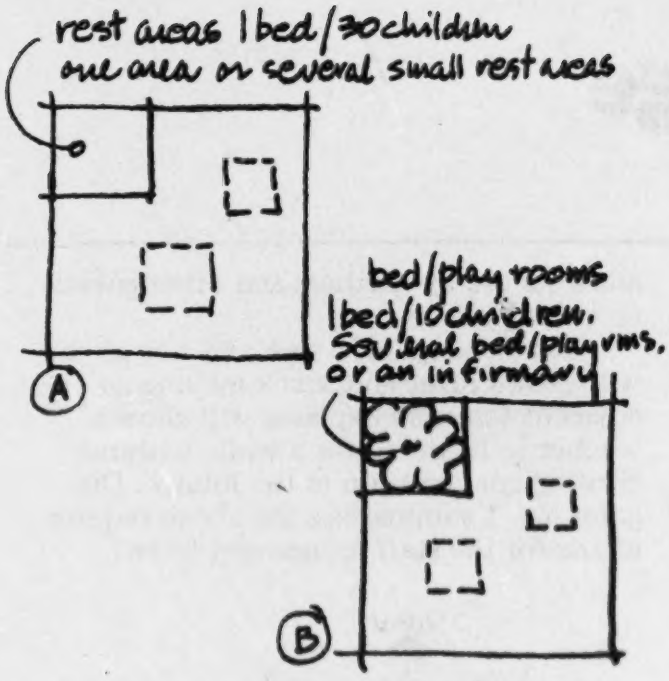
The program that houses the child in the isolation area for *long* periods of time will need more bed space and activity space and should consider ways to alleviate the child's feeling of confinement and isolation. The phrase "isolation room" brings to mind a hospital-like atmosphere, whereas the area should be considered more like the home, i.e., a bedroom/playroom. Here the child would have a bed and a toilet but he would also have an adjacent play space, containing a rug, table, chairs, and toys, for use during convalescence. The general decor of the area should also be homelike; the area can be kept clean without white ceramic tile floors and walls. A feeling of confinement may also be minimized by allowing the child to view into areas of the Center containing child or adult activities. "Isolate the germs but not the child suspected of having them." (Kellogg, 1949, p. 17)

A program that temporarily keeps a child in isolation will need more of a "rest area" than a "bedroom." This room can be considered an extension of the play group environment where the child is temporarily detained but not isolated.

Kellogg (1949, pp. 17 and 459) suggests one isolation bed per 25 children or 50 sq ft per 30 children enrolled "if the morning health inspection is really good." This would be appropriate for temporary isolation but for the all-day care program we have been discussing, a Center should allow about 3 beds per 30 children.



Center 25 to 60 children →


rest areas 1 bed/30 children one area or several small rest areas
A
bed/play rooms 1 bed/10 children. Several bed/play rms. or an infirmary
B

Center 60 to 100 children →

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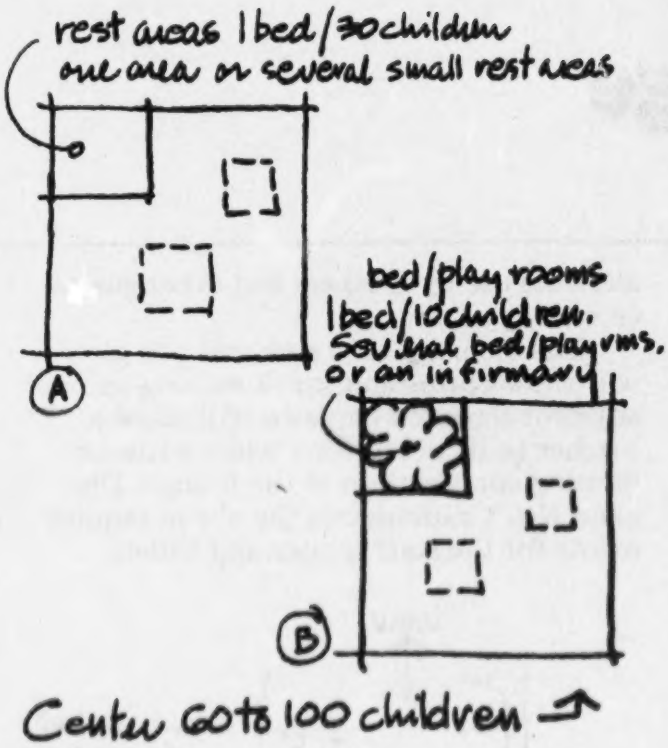


If a Center consists of upwards to 100 children, then the number of potential children convalescing (8 to 10 children) seems to warrant a separate health area (infirmary) under the direction of trained personnel rather than the teachers. This area could still be broken into small bedroom/playroom spaces.

The small rest areas or the bedroom/ playroom should contain locked storage in the teacher's realm for first aid and other medical supplies. The design of the infirmary suggested above will not be covered by this pattern but we will recommend the following for study guidelines similar to the patterns in this book, *Environments for Sick Children* (Lindheim, *et al.*, 1970.) Morning health inspections (if given) can be accomplished in either the entry to the group play environment or in the isolation/health area.

Staff Lounge/ Parents' Lounge

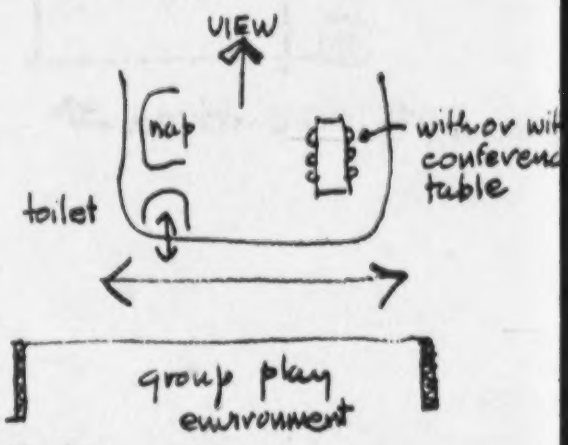
The major function of a staff lounge is as a place to get away from the children for a while, to smoke, drink coffee, chat, or take a nap. From Kellogg (1949):

Nothing makes teachers feel better than a room to which a teacher can go for a moment of relaxation. Working with children becomes an unendurable strain unless the teachers are relieved at reasonable intervals; going to the toilet is not enough for that . . . A teachers' room should have a couch to stretch out on . . . the most important thing it should afford is privacy. (pp. 17-18)

To achieve this place of relaxation, of privacy, away from the children, the lounge should be far enough away to achieve a "sense of awayness" and close enough to the group play environment to make it accessible during a short break. This awayness can be achieved without distance by giving the lounge acoustic and visual privacy from the children and by facing the lounge onto an outside court, garden, or the public environment surrounding the Center.

The teacher's rest break will probably be accompanied by a trip to the toilet. It should be near the lounge to minimize the time taken from a teacher's break period. The toilet should be entered from the general circulation path, not from the lounge, to afford greater privacy for the lounge and toilet and to allow its use by mothers and other gues (economy).*

The inclusion of a sink and hot pla will allow coffee and snack making an adjacent screened nap area will allow a teacher to lie down for a while without limiting conversation in the lounge. Di gram No. 1 summarizes the above requ ments for the staff lounge and toilet.



No. 1

*Some directors prefer the teachers' toile adjacent to the group play environment "to sure maximum supervision of the children at times" (Kellogg, 1967; see floor plan, Phoeb Hearst Preschool Learning Center, and Unit plan, appendix). But since the typical group environment has at least three teachers, we f the children can still be supervised and allow teacher a short break *away* from the group p environment to go to the toilet and maybe g cup of coffee in the lounge.

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Pattern 27

f lounge is children fee, chat, 49):

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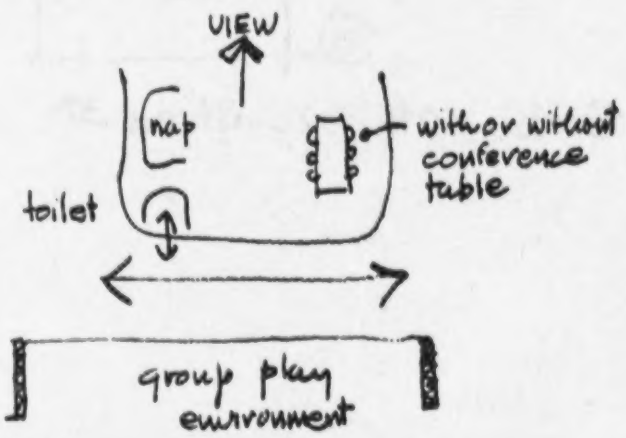
allow its use by mothers and other guests (economy).*

The inclusion of a sink and hot plate will allow coffee and snack making and an adjacent screened nap area will allow a teacher to lie down for a while without limiting conversation in the lounge. Diagram No. 1 summarizes the above requirements for the staff lounge and toilet.



No. 1

*Some directors prefer the teachers' toilet adjacent to the group play environment "to insure maximum supervision of the children at all times" (Kellogg, 1967; see floor plan, Phoebe Hearst Preschool Learning Center, and Unit plan, appendix). But since the typical group play environment has at least three teachers, we feel the children can still be supervised and allow one teacher a short break *away* from the group play environment to go to the toilet and maybe get a cup of coffee in the lounge.

The staff also needs a place to keep personal belongings. They could use the staff lounge, but a better location would be the group play environment where a teacher can have her coat available for outdoor play supervision.

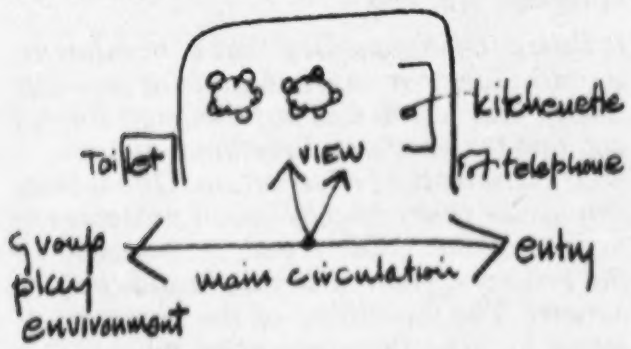
Staff planning is an important part of a preschool program but there is a reluctance on the part of many teachers to do this planning (Weikart, 1969, p. 29). This reluctance might encourage some Centers to develop the staff lounge into both a work area and a lounge by the inclusion of a conference table (Diagram No. 1). But this begins to overlap with the requirements of Pattern No. 7, *Visitors/Administration/Staff*, so the potential of this integration should be considered along with Pattern No. 7 and the discussion of a parents' lounge below, before arriving at a solution.

In addition to the staff lounge, the parents need a place where they can gather in an informal way. From Haase:

Parents need a parents' room where they can gather for discussions and activities of their own choosing while the children are in classes. (p. 17)

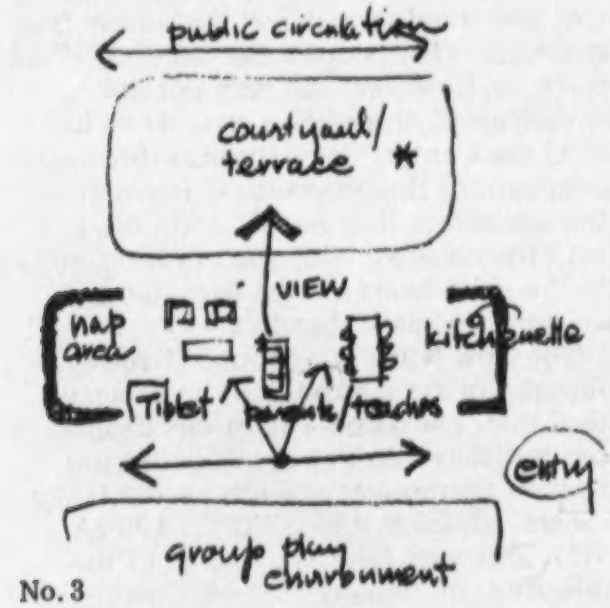
And from Allen (1968):
Nursery schools are also invaluable meeting places for often lonely young mothers who can thus discuss thier problems with each other and with the trained nursery school teachers. (p. 42)

This parents' lounge should be along the path from the entry to the group play environment and should be *open* to the circulation path to encourage hesitant mothers to "drop in." The lounge should have a sink and hot plate similar to the teachers' lounge and include work tables for parent projects. A toilet and public telephone should be available to this area (Diagram No. 2).

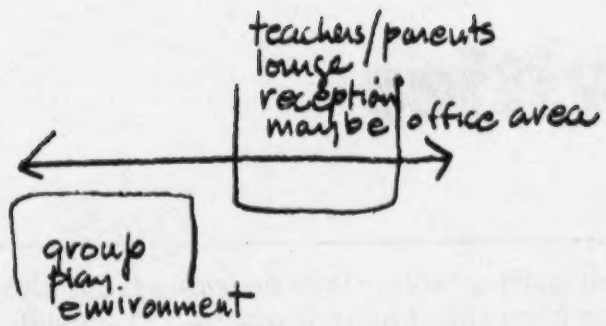


No.2

The parents' lounge could be a separate space or it could be combined with the entry to the Center, the office area, or the teachers' lounge (Diagrams No. 3 and 4).



No. 3



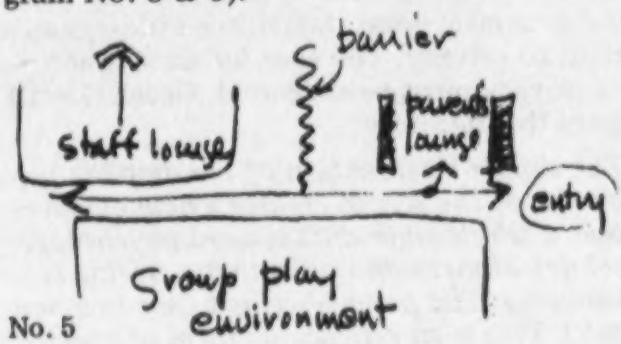
No. 4

(See also Patterns No. 6 and 7). Overlapping the parent and teachers' lounge areas can be considered an economy move, or it can be considered an ideal solution. From the Department of Education and Science (1967):

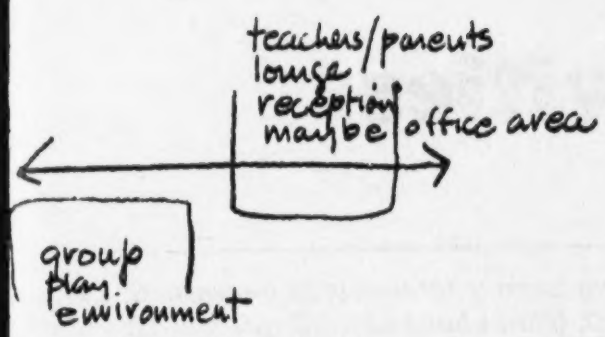
The groups share a small room for parents and staff. This was seen as a way of encouraging a closer relationship between the school, the home and the community. (p. 20)

And from Haase:
It is important that the spaces for staff use and those for community activities are adjoining. Additional cooperation develops when enthusiasm within one area can spill over and build on the activity in another. (p. 17)

But this juxtaposition of the two lounge areas is not desired by all teachers. Many would like to take a break away from both children *and* parents (Diagram No. 5 & 6).



No. 5



No. 4

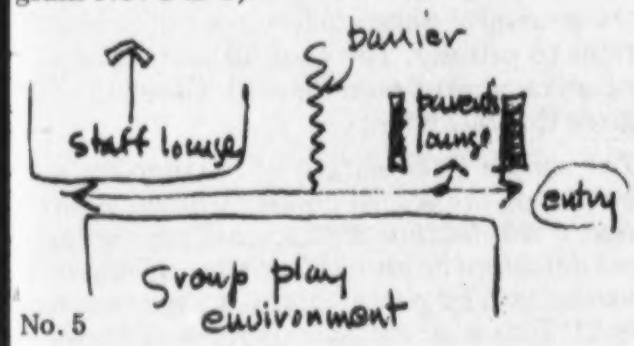
(See also Patterns No. 6 and 7). Overlapping the parent and teachers' lounge areas can be considered an economy move, or it can be considered an ideal solution. From the Department of Education and Science (1967):

The groups share a small room for parents and staff. This was seen as a way of encouraging a closer relationship between the school, the home and the community. (p. 20)

And from Haase:

It is important that the spaces for staff use and those for community activities are adjoining. Additional cooperation develops when enthusiasm within one area can spill over and build on the activity in another. (p. 17)

But this juxtaposition of the two lounge areas is not desired by all teachers. Many would like to take a break away from both children *and* parents (Diagram No. 5 & 6).



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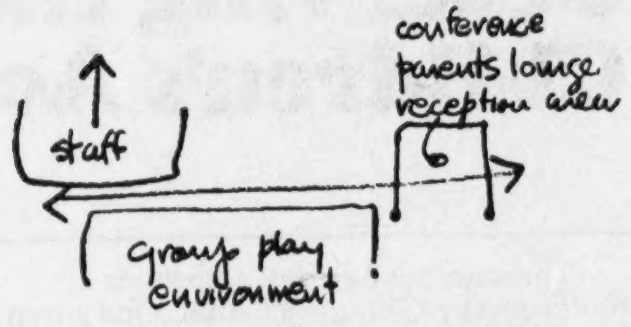

No.6

This separation could be more problematical in a Center serving parents who could spend several hours at the Center.

In an all-day program, working mothers would tend to visit only in the early morning, late afternoon, or in the evening, thereby creating no parent/teacher overlap in the lounge for the greater part of the day.*

(See the Early Learning Center, Bellehaven Children's Center, prototypes, Department of Education and Science, appendix.)

*A variation on the mixing of parents and teachers was developed by the author and Sanford Hirshen (Osmon, 1966) for a Children's Center in a Migrant Farm Labor Camp. A courtyard area was placed adjacent to the teachers' lounge and the camp circulation path. This courtyard was a shaded spot in an otherwise dusty, treeless terrain. Mothers from the camp would stop to have coffee with the teachers and aides, who entered the courtyard from the staff lounge. Valuable child care information was passed on and reluctant mothers were encouraged to bring their children to the Center (see Pattern No. 5 for a similar "encouragement" discussion).

Observing the Children's Activities

There are four general categories of observers at a Children's Center. One group will be the parents watching their own and other children at play (Landreth, 1942, p. 230). From Gesell (1949):

There is another form of parent 'guidance' which might be called self-guidance. It is a kind of illumination which comes to parents as a result of their own thinking and their own observations of their own children and of other children. (p. 284)

Another group are the students and visitors interested in observing child behavior in a preschool environment, and a third group are teachers themselves observing to improve their methods. From HEW, Jacksonville (1968):

Each day, as soon as the 3-hour class was over and the children had been driven home, the director, the teacher and the aide met to discuss the day's activities, special problems and individual progress of pupils and to plan the next day's activities. The most current videotape was viewed, and the director critiqued the lesson as part of the staff's daily in-service training.

The fourth group are usually not considered as observers since they are the children themselves, but various educators are wondering if observation methods utilized in other fields might not be useful in a preschool setting. From Moore and Anderson (1968):

. . . all we mean is that if an environment is so structured that the learner not only can learn whatever is to be learned, bu can learn about himself qua *learner, he be in a better position to undertake wh ever task comes next . . . We find it no all surprising that athletic coaches have made more use of reflective devices in struction than classroom teachers. This doesn't surprise us because of our conf dence in play forms. It is in the realm o sports that motion pictures of learning and practice have come into wide usage* (p. 31)

Every Center has the potential nee for parent, teacher, and child observati while only a few experimental program and university Children's Centers will h a need for extensive student and visito observation. But in either case, functio and ethical questions arise as to the de of separation that should be placed be tween the observer and the child. The ethical question (if it can be called tha must be answered by the staff before t following physical criteria can be considered.

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The simple intervention of the diaphan barrier of the screen creates a new pers tive, a wholesome shift toward psycho cal detachment and objectivity. Seeing believing. The parent begins to see in a light. This is an efficacious form of visu

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The simple intervention of the diaphanous barrier of the screen creates a new perspective, a wholesome shift toward psychological detachment and objectivity. Seeing is believing. The parent begins to see in a new light. This is an efficacious form of visual education and self-guidance. It reduces the necessity of verbal explanation and exhortation. (p. 285)

It should be emphasized that concealment is a subsidiary or negative value of one-way vision. The screen was not designed for spying, but for positive educational and scientific controls of observation. One would emphasize that one-way vision protects the privacy of the children and, on occasions, the privacy of their attendants and their parents. The invisibility of the observers serves to make the observation more serious and purposeful. (p. 370)

Thelma Harms, the director of the H. Jones Child Study Center at the University of California at Berkeley, has been working with a one-way observation room for many years, and she does not feel there have been any adverse effects upon the children. (Paul Goodman, however, was very critical of this concealed observation area when he visited the Center.) Mrs. Harms informs the parents about the observation area and its rationale before they enroll, and does not falsify the nature of the observation function if a child hears a noise from behind the screen and asks about it.

The New Nursery School in Greeley, Colorado, mixes a number of approaches. This Center has a one-way observation room but they allow the children to use it to view themselves and others and make no secret of its existence (EFL , 1970A, p. 33). This may take away some of the implication of "spying." The following solutions reflect differing views of child observation.

No Special Provision for Observation

In this solution parents and visitors would be welcomed in the midst of the children. Observers could be asked to stand in the entry area (Pattern No. 8), in an adjacent multipurpose room (Pattern No. 9), or to the periphery of the playing area. In a small Center, the visitors and mothers could be allowed to mix freely with the children. Both of these approaches are limited to a Center that doesn't receive many visitors since a large visitor group would disrupt the group play environment.

An Observation Area Unobserved from the Group Play Environment

This approach was defended under the argument for hidden observation above. The barrier can be several layers of screen, with space separation (H. Jones Child Study Center, appendix) or one-way glass (Bing Nursery School, appendix). If the observation area has a research function, there will be the need for auditory pick-up of the children's conversations that can be relayed to the observation area. In the Jones Center the sound passes through the screen, and in the Bing School microphones are scattered throughout the play space to relay the voices.

The observation room will need a counter or desks for note taking and a corridor behind the seats to allow the observer to follow a child through the group play environment. The observation room should also take in the outdoor play yard in a research-oriented facility (see Jones School, appendix), or an added dimension of space may allow the observers to flow freely in the play yard (Bing School, appendix, 500 sq ft per child).

The observation area should be entered from a major circulation path within the Center without disrupting the group play environment. This entry should have visual control by the staff to allow instructions to be given to viewers, to keep out unauthorized people, and to limit the number of viewers to the fire-occupancy limit.

Even without the student-training function, there are those educators who recommend a similar concealed observation area for parents although with fewer observation spots (30 lineal inches per station; see Gesell arguments above). This room should have its entry point concealed from the children in the group play environment since knowledge of his parents' presence can disrupt a child (Kellogg, 1949, pp. 430-330; see Phoebe Hearst Preschool Learning Center, appendix). The observation area can also be integrated with the parents' lounge, the office area, a hallway, etc. (see Pattern No. 7).

An Observation Area Observed from the Group Play Environment

This is a middle-ground solution which allows the observer and the playing children to see and hear each other, but separates them into two areas. The internal requirements for this area are similar to the hidden area discussed above except the need for a hidden entrance. This solution has generally taken the form of an area separated from the group play environment by "space" or by vertical height, although it could easily be argued that a balcony position is a "watchtower," and as undesirable as a hidden room.

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In any of the schemes above the observation area should not eliminate valuable wall space within the group play environment.

Observation Through Closed Circuit Television or by Videotape Playback

Replacing the observation room with technological devices is being tried in various programs but without eliminating the charge of "spying." The commercial chain of Discovery Centers on the East Coast has TV monitors in the reception area for observation of the children by the parents. The use of videotape and movies was mentioned above for its potential in allowing both the children and the teachers to view themselves in retrospect, but it can also be used to show parents exactly what is happening to their child at the Center (HEW, Jacksonville, 1969). This is particularly useful for working parents who do not have time to observe during the day but can come to late afternoon or evening meetings.

From HEW (*ibid.*):
In addition, videotapes of classroom activities (both in the large and small rooms) were shown regularly at these meetings (parent). The program director filmed these activities himself twice a week, so that any one of at least eight current videotapes were shown to parents so that they could see the connection between what was actually happening to their children and the objectives they (the parents) had articulated at the initial parent-staff group meeting.

Lighting the Group Play Environment

This pattern is not intended to give a technical description of the lighting conditions for the play group environment, but rather to point out lighting problems particular to this building type.

The lighting parameters for a Children's Center are similar to the following description of the lighting needs in a British infant school (Department of Education and Science, 1967B):

In many teaching spaces in school the work is generalized and the rooms will be used for a wide range of different activities. These may range from a full class at their desks with their attention directed to the chalkboard, to numerous small groups and individuals, whether they be nursery children or sixth formers, each busy with their own work in various parts of the room with the loose furniture grouped in many ways. In such a case it should be possible to work with equal comfort and convenience facing any direction. (p. 26)

The text quoted above goes on to suggest that the environment described needs an adequate level of lighting over the whole room and local lighting whenever emphasis is needed for particular activities.

There is an inherent bias in this description toward open planning and a degree of free flow on the part of the children. Therefore, this pattern leans toward the free activity choice and the slow pace programs rather than the highly structured program (Patterns No. 3 and No. 9). But with a slight bit of interpretation, many of the recommendations w applicable to a structured progra approach.

This pattern will not discuss *tity* of either artificial or natural although we might mention that quoted above recommends 30 lu of overall lighting for desk work tables, and laboratories and a 2% light factor (percentage of direct flected outside light falling on in ing surfaces: *ibid.*, p. 14).

Local Lighting

Pattern No. 4, *A Multi-Realm ment for Child and Adult*, sugge vironment scaled to the child. L ing can assist this requirement b emphasis on the activity centers stored play materials and provid for the small-scaled tasks of the

Emphasizing or defining an a center with local lighting can he tional isolation of one activity f other (Pattern No. 9). It seems r to assume that an activity area d guished sharply from the surrou areas would tend to hold a child would be useful in a program th couraged long periods of child c tion on a task (slow pace progra tern No. 9). A Center that encou free choice of activities should n that much definition to activity (except for clarity of task) since centration is not emphasized at pense of free flow (Department cation and Science, 1967B, p. 5

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Pattern 29

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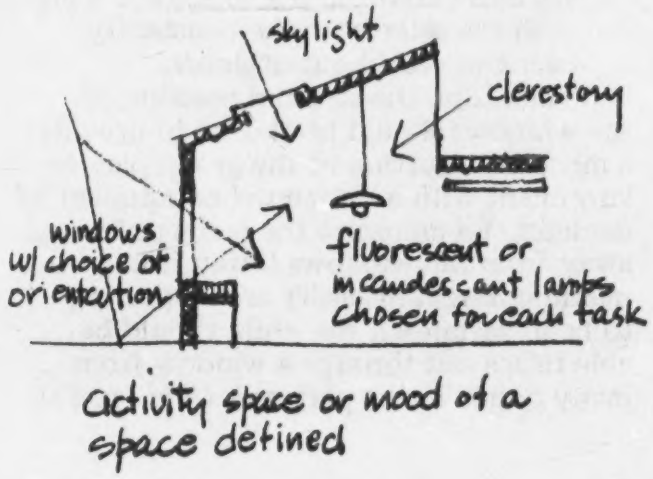
The additional lighting should not be too brilliant or the rest of the room will seem unpleasantly gloomy to those working under the local lights. As a general guide the level of the local lighting should not exceed three *times that of the general lighting.* (ibid., p. 26)

Pattern No. 10, *Presentation and Storage of Play Materials*, discussed the desirability of presenting play materials "distinctly" to the children. Local, adjustable lighting can provide this distinctness by modeling and by bringing out with shadows the form, texture, and details of objects (*ibid.*, p. 9). Local lighting can also aid small hands and developing eyes in their play activities (*ibid.*, p. 26). And from Landreth and Moise (1949):

While young children's activities hardly come under an adult classification of close work, even a simple operation like fastening a button or putting a puzzle together may make considerable visual demands when the activity is unfamiliar and when the eyes concerned are better adapted for distant than near vision, as is true in early childhood.

As we mentioned above, activity centers, whether changing or permanent, can be aided with local lighting but with limits on the degree of intensity. We should now look at the type of local lighting appropriate to each approach. A group play

environment which has activity centers defined permanently or semi-permanently by changing floor planes, low storage units, or with alcove-like spaces (Pattern No. 9) can have a more permanent lighting system custom tailored to fit each activity center, e.g., the art area could have sun-free directional light from skylights or windows, the reading area could have soft incandescent light and a view window, and the plant area could be a small greenhouse (Diagrams No. 1, 2, and 3).


skylight
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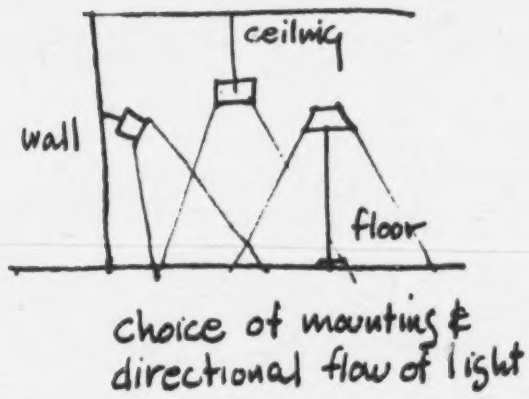
windows w/ choice of orientation
fluorescent or incandescant lamps chosen for each task
activity space or mood of a space defined

No. 1



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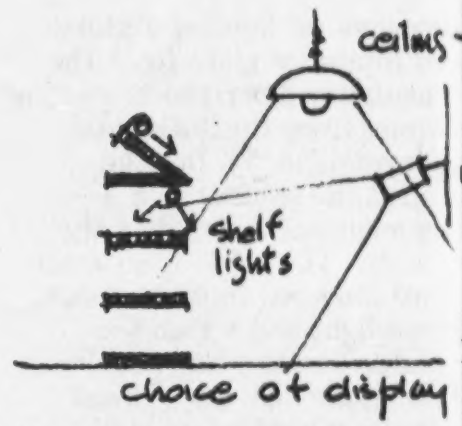

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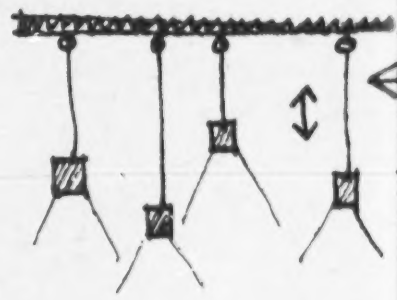
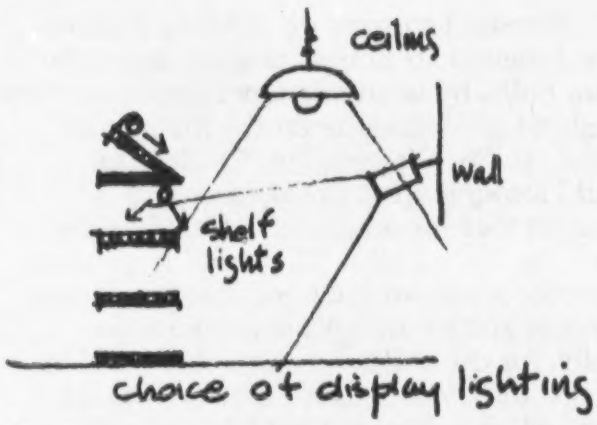
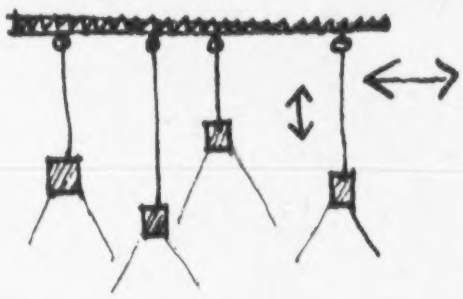


No. 4



No. 3

Any open-space environment which allows the children and teachers to vary the location of an activity center or to choose a variety of work surfaces and positions will need a local lighting system that can match this degree of flexibility (Pattern No. 9). Of course, the over-all lighting levels can be raised to provide adequate light at task level but the flexible, local lighting systems shown below help produce a more "lively" interior besides aiding concentration on a task. These localized "pools of light" combined with color and "the glint of metallic fittings on doors, windows and benches—all these will help to add sparkle to the scene" (Department of Education and Science, 1967B, p. 34).

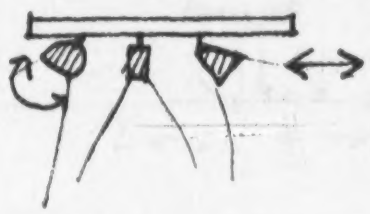


No. 4

Diagram No. 4: An adjustable grid of light that can be moved horizontally or vertically to match any floor position.

No. 5

Diagram No. 5: Portable lighting fixtures that can be moved throughout the group play environment to define a group activity center or an individual work station. Each child could be provided with a small high-intensity light that could be carried to any working location. The group play environment would need an appropriate amount of electrical outlets to make this feasible.



No. 6

Diagram No. 6: A fixed light strip—lamps can be moved horizontally or pivot.

By placing the general lighting and the local lighting on dimmers, further "programming" control is available to the group play environment. Dimming devices are expensive but with careful use of curtains, multiple zoning of overhead lighting, and manipulation of the local lighting, considerable variation in light levels can be made available at a minimum of cost.

Another aspect of lighting a Children's Center is the height of the lights above the primary occupant of the building—the

The Outdoor Play Yard

With a few exceptions outdoor play is accepted universally as a desirable part of a Children's Center program.* It serves the children by giving them access to fresh air and sunshine, by giving them a chance to let off steam or reduce excitement (Millar, 1968), as a means of exercising large muscles (Landreth, 1942) and by its potential for nature study (Landreth, 1942).

A square footage recommendation for outdoor play space can be useful when selecting a building site for a Children's Center or when beginning the first design sketches. Recommendations vary from 100 to 300 sq ft per child of space, with 150 sq ft/child about average (Haase, p. 7). We will use this average as our guide and add to it the 20 sq ft/child required for a semi-shelter (Pattern No. 34). Another useful guideline is the distinction between types of outdoor play activities and their relative need for space. For our patterns we are using the categories action, passive, social, and nature areas. The passive area contains activities that tend to be large-scale extensions of activities taking place indoors (sand play, construction, gardening, etc.). The action area is distinguished from the passive area in degree of movement and noise, i.e., large muscle activity. Social play takes place in both the active and passive areas, within the equipment provided for those activities, although a few areas scattered throughout the action and passive areas might be considered primarily as social gathering spots (Pattern No. 10, *Places to Pause for Awhile*). The nature areas can be integrated within the action and passive areas in the form of landscaping, or be sub-areas (gardening or animals) within the passive area, or be provided as a nature area outside the play area (not included in the play yard square footage requirements).

To transfer this into spatial terms, we will use the general criteria that active play takes about three times as much space as more passive, focused play. This ratio is backed up by the typical one to three recommended ratio of indoor to outdoor space (Kellogg, 1949, p. 458; Utzinger, 1970. p. 9). Transferring this into square

*There are some ongoing experiments that minimize the use of outdoor play in favor of indoor "cognitive" activities. This may be feasible for a half-day program but it has proved to be quite unreasonable and self-defeating in an all-day program. To eliminate this conflict there are Centers that include cognitive potential within their outdoor play equipment (see Pattern No. 22).

Another type of experiment accepts the value of outdoor-type activities but places them within a climatically controlled interior environment. Castle Square Early Learning Center in Boston did not have any space available for an outdoor play yard but they did have plenty of indoor high ceilinged space. So the director, R. Gulick, created an outdoor play yard indoors that seems to be working quite well. The ceiling height of 13′-0″ helps dissipate the high noise level that accompanies large muscle activity. The unknown dimension in this project as well as domed sports arenas and domed cities is the psychological/physiological effect of eliminating activities that normally were carried on outdoors.

y Yard

Pattern 30

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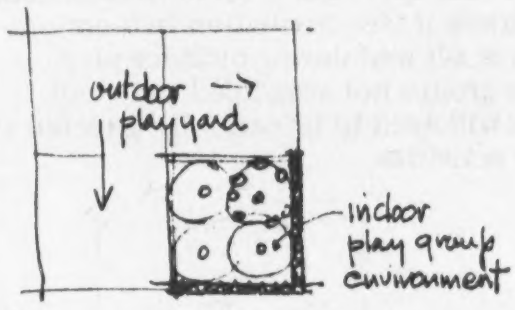
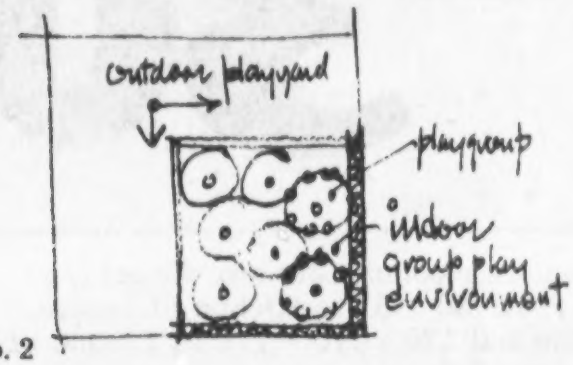
The above discussion assumed a separate play yard for each indoor play environment. The following examples show various means to share play yards, either to reduce square footage requirements or to increase the interchange between the children in different play environments.



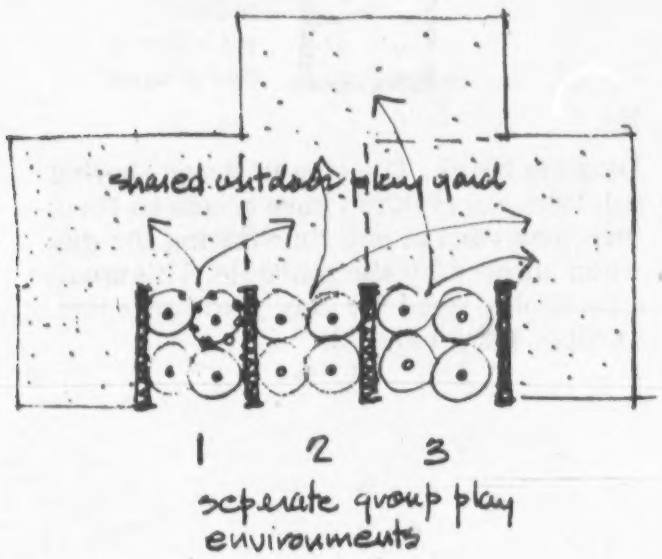
No. 1

Diagram No. 1: The standard non-sharing solution. All children have access to their own play yard at any time during the day when allowed by the schedule. This creates a maximum need for play yard space and outdoor play material.



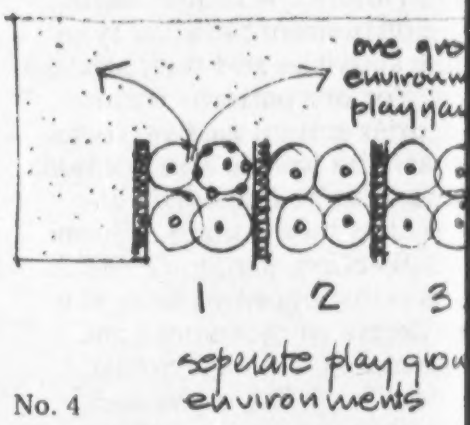
No. 2

Diagram No. 2: A Children's Center consisting of a single *indoor* play group environment with from 25 to 100 children. The small play groups (one teacher plus 5 to 10 children, Pattern No. 3) alternate in the use of the play yard, allowing a reduction in total size and amount of equipment. This approach is somewhat difficult to achieve if free circulation indoors/outdoors is allowed during outdoor play. Those groups not scheduled to be outdoors will need to be carefully directed into other activities.



No. 3

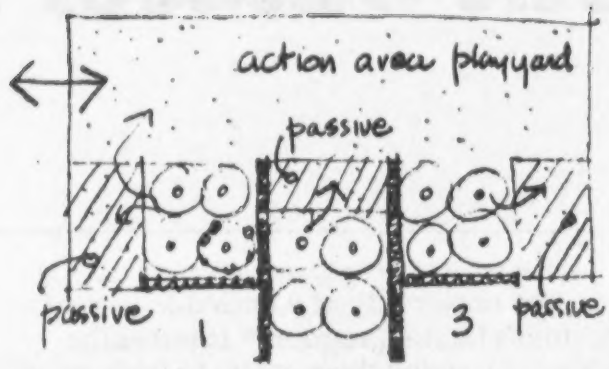
Diagram No. 3: Separate indoor environments share a single outd yard. The square footage and an equipment per child is *not* redu is provided to increase the amou space and activities available to and to allow mixing of the child several play group envrionment door play area has its own semi- since it functions as part of the



No. 4

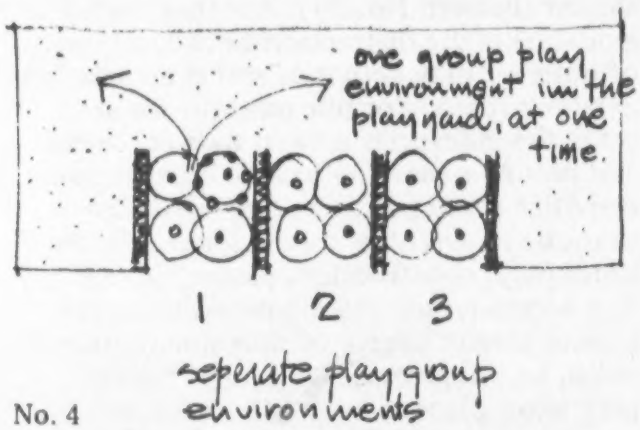
Diagram No. 4: Separate indoor environments share a single outd yard but with a staggered play s that allows reduction of the tot the play yard. This solution is a priate where land is at a premiu free flow of the children is desi tween indoors and outdoors (Pa 33), then this same flow (view a culation) must be closed when u use to prevent disruption of the playing indoors by those playin A semishelter could also be shar requirements of Patterns No. 32 33 could both be met.

Diagram No. 3: Separate indoor play group environments share a single outdoor play yard. The square footage and amount of equipment per child is *not* reduced. Sharing is provided to increase the amount of space and activities available to each child and to allow mixing of the children from several play group envrionments. Each indoor play area has its own semi-shelter since it functions as part of the indoor area.



No. 5

Diagram No. 5: Small separate outdoor play yards are made available to each indoor play group environment. This area contains the semi-shelter and passive play activities (Pattern No. 32). Action-oriented play activities (Pattern No. 31) takes place in a shared play yard, allowing a reduction of space in the area requiring the highest percentage of play space. The amount of large, expensive equipment usually associated with action play can also be reduced. This solution also allows the action area to be used after hours by the community and allows the more fragile small scale equipment to be fenced in (see Pattern No. 5).



No. 4

Diagram No. 4: Separate indoor play group environments share a single outdoor play yard but with a staggered play schedule that allows reduction of the total size of the play yard. This solution is appropriate where land is at a premium. If a free flow of the children is desired between indoors and outdoors (Pattern No. 33), then this same flow (view and circulation) must be closed when not in use to prevent disruption of the children playing indoors by those playing outdoors. A semishelter could also be shared if the requirements of Patterns No. 32 and No. 33 could both be met.

Action Outdoor Play Area

The action area of the play yard should provide the children with opportunities to exercise their large muscles in the following motor activities (Landreth, 1942, p. 100):

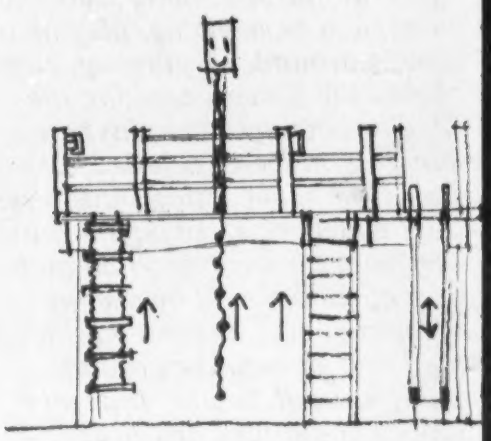
a) Running
b) Throwing
c) Jumping
d) Climbing
e) Pedalling
f) Pushing and pulling
g) Hitting and punching
h) Supporting own weight
i) Kicking
j) Creeping and crawling
k) Rhythmic exercises
l) Somersaulting
m) Rolling and tumbling
n) Balancing

Besides this *variety* of motor activity, the action area should provide for different *levels of skill development* in each motor movement. From Landreth (1942):

Equipment should provide for degrees of skills as well as varieties of skill. If the young child's development of skill is to be progressive, equipment must challenge him to develop gradually increasing muscular skill and coordination. . .A well-equipped nursery school yard offers some challenge to the most skillful child in the school and some opportunity for successful achievement to the least skillful. (pp. 104 and 107)

This suggests an environment in which the child can choose the level of challenge he desires—that is, the levels of skill are distinctly presented; but when he wants to move on to a higher skill level the e ment should provide enough contin encourage this flow. From Cockrel

The quality of offering many possi has often been extolled as importa materials, especially from an educa point of view. It would appear tha children also appreciate that qualit though for less learned reasons, th playthings which permit activity le further activity. (p. 425)



No. 1

An example is suggested by Di No. 1 (climber—Landreth, 1967, p The child can clearly see several w reach the platform level. He can c skill level he prefers but the variet up" will encourage him to try the ficult ones when he has mastered t

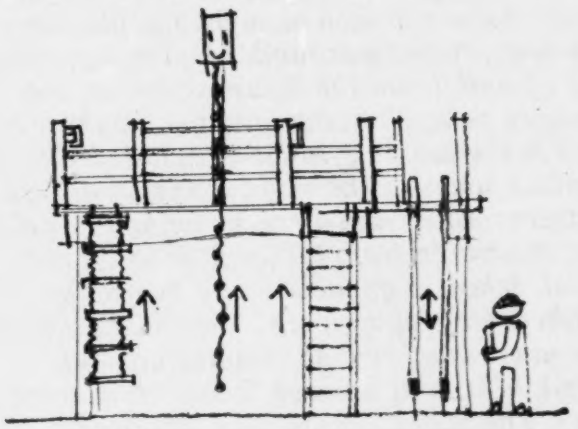
To encourage continued intere action area, the designer can intro and sensual variety. These qualitie

or Play Area

Pattern 31

move on to a higher skill level the environment should provide enough continuity to encourage this flow. From Cockrell (1935):

The quality of offering many possibilities has often been extolled as important in play materials, especially from an educational point of view. It would appear that little children also appreciate that quality and though for less learned reasons, they prefer playthings which permit activity leading to further activity. (p. 425)



No. 1

An example is suggested by Diagram No. 1 (climber—Landreth, 1967, p. 177). The child can clearly see several ways to reach the platform level. He can choose the skill level he prefers but the variety of "ways up" will encourage him to try the more difficult ones when he has mastered the others.

To encourage continued interest in the action area, the designer can introduce spatial and sensual variety. These qualities will also provide stimulus for the dramatic play which accompanies action play.

A *few* large muscle exercises can fulfill the requirements above without physical "props." An example would be a pure running exercise in which the child varied his own speed (skill level) and used for stimulus his inner feelings, the weather, the moving sky, etc. But in the majority of movements performed by the child, he needs or prefers a physical element to interact with. These elements we will call a *play node* or an *action localized* environment (Moore, 1966).* Play that involves pure movement (no props) or play involving a series of play nodes we will call (from Moore) the *action mobile* environment.

Play Nodes or Action Localized Environments

The provision of graded skill levels combined with a variety of spatial and sensual qualities seems to suggest, at first glance, a piece of equipment containing a series of spaces with many ways to get up and down,

*The Moore study mentioned above (An Experiment in Playground Design) will be used extensively in this pattern and in Pattern No. 32, Passive Outdoor Play Area. The study took place at a playground primarily designed for children ages 6 to 13 but did include an area for children under 5 years of age. "It was clear that the under-fives had not been provided for adequately. Their area should have been a very small scale replica of the rest of the playground" (Moore, 1966, p. 141). The goals expressed for this playground design and those expressed by preschool educators regarding the outdoor play yard are similar enough to warrant the use of the Moore research.

and a variety of platforms to look up and down from, i.e., a sculptural solution. This may be a good description of one piece of equipment, but it does not describe the wide range of potential design solutions. The following types of play nodes suggest a much wider range of possibilities.*

Swings—Why do swings hold such fascination for children? From our point of view, we might suggest that the swing is a delightful rhythmic device that has a graded challenge built within the possibility of swinging ever higher. Spatial variety is created by moving quickly through a series of spaces (points of view). Here, activity leading to further activity might be rephrased as movement leading to further movement. The use of "kinetic toys" similar to a swing has considerable potential for play equipment.**

Movable Motor Equipment—Rather than attempt to build all possibilities within the fixed equipment, the teachers can be given loose material for creating motor environments (Landreth, 1967, pp. 99-114). A temporary setup can be built with this material to supplement the fixed equipment or an individual exercise can be created for a child who needs work on a particular skill or level of skill. Materials can be broug from the construction area for buildin of these motor environments. Other m action equipment could include balls, bags, hoops, etc.

A Wall—A *simple* wall can be turne an element with graded challenge by t of different size stones and variable de mortar joints, i.e, hard and easy ways t climb the mountain. Providing differe faces "to jump down on" is another w extend the challenge of a wall.

Action Mobile Environments

The action localized areas will pro props for focused muscle activity but t play nodes in *combination* with one a other have potential for more comple activity. From Moore, 1966:

Patterns of general motor activity were mon. Activities such as swinging, playi see-saws, running around, playing tag, ing up and down the Tower, crossing t balance pole, climbing over the playho and in the jungle gym were included. T tention spans of the same action in dif patterns varied widely (e.g., swinging c last anywhere from 30 seconds to 30 m utes). Whole sequences could be accom plished very rapidly, e.g., large swings, see-saws, small swings, running around climb hills, play around Tower—four m utes. The actions could take any order. (p. 80)

This sequential flow of activities w only occur if the play nodes have fluid boundaries between them and are clus together to suggest different paths of a tivity. If adjacent play nodes have con trasting types of muscle activity the ra of potential play combinations will be creased and body coordination will be thered.

*Another consideration is the number of play nodes to be created in the action area or in the total play yard. There are scattered references to the need for sufficient equipment for the children to minimize conflict (Landreth, 1967, p. 173), but the amount of "things to do" is the final criteria, not the specific amount of play equipment. The motor activities of this pattern and the passive activities of Pattern No. 32 should provide a sufficient number of activities for each child. The smaller the play yard, the more these activities will need to be combined into multi-purpose—multi-layered environments.

**For a portfolio of localized play environments including some kinetic equipment, see Lederman and Trachsel (1968) and Dattner (1969).

or level of skill. Materials can be brought from the construction area for building some of these motor environments. Other movable action equipment could include balls, beanbags, hoops, etc.

A Wall—A *simple* wall can be turned into an element with graded challenge by the use of different size stones and variable depth mortar joints, i.e, hard and easy ways to climb the mountain. Providing different surfaces "to jump down on" is another way to extend the challenge of a wall.

Action Mobile Environments

The action localized areas will provide props for focused muscle activity but the play nodes in *combination* with one another have potential for more complex play activity. From Moore, 1966:

Patterns of general motor activity were common. Activities such as swinging, playing on see-saws, running around, playing tag, climbing up and down the Tower, crossing the balance pole, climbing over the playhouse and in the jungle gym were included. The attention spans of the same action in different patterns varied widely (e.g., swinging could last anywhere from 30 seconds to 30 minutes). Whole sequences could be accomplished very rapidly, e.g., large swings, large see-saws, small swings, running around, climb hills, play around Tower—four minutes. The actions could take any order. (p. 80)

This sequential flow of activities will only occur if the play nodes have fluid boundaries between them and are clustered together to suggest different paths of activity. If adjacent play nodes have contrasting types of muscle activity the range of potential play combinations will be increased and body coordination will be furthered.

Continuous sequences demanding alternating types of muscular coordination also allow the child to contrast different actions, to distinguish them, and learn how to gear his body to change from one to the other. (Moore, 1966, p. 116)

Clustering the play nodes to provide continuity will be limited by both the safety requirements at each play node and the need for each play node to present its activity distinctly during the play sequences mentioned above. A safety factor of space is required around each play node that is equal to the potential *action outward* inherent in any piece of equipment. For example, the jungle gym would need an area equal to the maximum distance a child could jump outward from the top rung, and swings will need a similar area for the extended feet of the swinging child. From Moore:

The particularly interesting and exciting action-oriented cable-spools had to be left out simply because of the compactness of the design—there was not room to roll them around. . .The 'tree' near the large swings was omitted because far more bailing-out space was needed in front of the swings than was originally envisaged. (p. 56)

Clustering the play nodes is further limited by the need to allow a child to safely *bypass* a piece of equipment if it is occupied or to choose another activity beyond.

A path four to five feet wide tangential to the safety space will provide a bypass route that will not significantly disrupt continuity. This path should weave in and out between the play nodes to discourage excessive running (safety) but should not be so curvey that it encourages a child to run through a play node to reach another beyond. (This may require widening the path at points beyond 5'-0".) This requirement does not eliminate the possibility of a special play node located

purposely at a convergence of circulation paths, but it does require that this point be designed as a definitive "terminal point" that does not allow quick movement through it. This same requirement suggests that the perimeter safety areas should be circular and not rectilinear.

To allow for pure movement play and maximum exuberance without danger, one or more open areas should be provided in the action area of the play yard. From Moore, 1966:

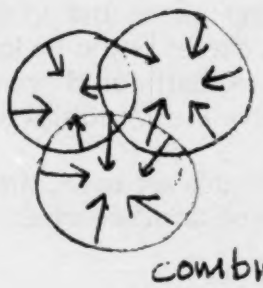
The sensuous pleasure derived from movement was clearly the one quality above all others that contributed the most excitement and interest to the action oriented environment. Often movement could be considered as a sensuous experience in its own right, not necessarily involving a motor skill. (p. 113)

Open areas can be flat, inclined or rolling terrain, but they should not become so large that they create a "no man's land" which discourages play rather than attracting it. These areas can be enhanced by the provision of rest points and subtle props for imaginative play (Pattern No. 10, *Places to Pause for Awhile*), i.e., a tree, a hollow, a wall, a tunnel, a pool of water.

The combination of paths and open areas should allow a single teacher to supervise the children from a point central to the action area (Kellogg, 1949, pp. 150-151). The pathways should allow the teacher to move quickly from this point to aid a child or prevent an accident (*op cit.*, 458).

The following is a diagrammatic summary of the above requirements:

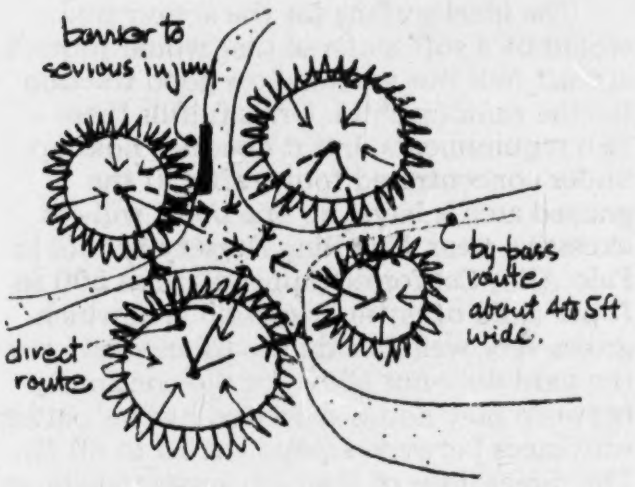
No. 2



No. 3

No. 4

localized environment or play node



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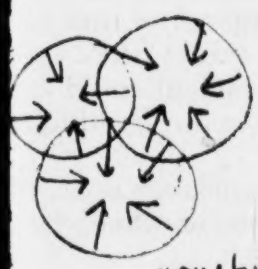
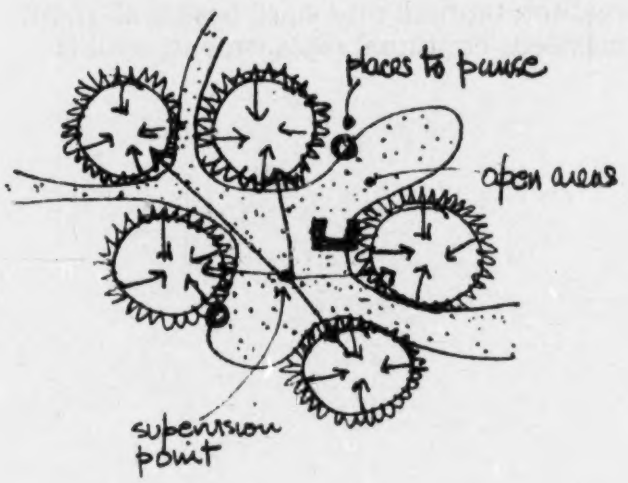


combined play nodes - with continuity & graded challenge



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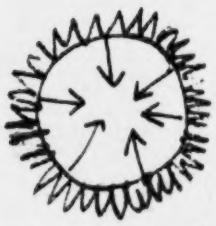

safety space around each play node.

Pattern 31/Action Outdoor Play Area

The ideal surface for the action area would be a soft material that would protect against falls but would allow good traction for the running child. Grass fulfills these two requirements, but it does not hold up under concentrated foot traffic. If the grassed area is large, no one point will get excessive wear. The Bing Nursery School in Palo Alto, California (appendix) has 500 sq ft per child of outdoor grassed area which grows very well, but due to its excessive size the yard does not allow for the continuity between play nodes suggested by this pattern (distances between equipment 10 to 30 ft). The dimensions of the path suggested above (4 to 5 ft) would not allow for grass survival.

Alternatives—dirt is good, except in wet weather; tanbark on a hard base is all right, but needs continual replacement; sand is safe but traction is poor; and outdo has potential but it is comparatively and best suited to a flat area where glued down without concern for up seams. Therefore, combination solu most common. A soft base is provid and around each piece of equipmen dirt, tanbark, rubber matting, or ca the pathways are created with cobb asphalt, wood, or stabilized gravel (gravel and clay). The open area cou still another material. Grass could h fighting chance in this larger area; d be off limits after a rain; carpet cou on a flat, open area, and asphalt co vide a base for the movable motor e mentioned earlier.

If two dissimilar materials are u should be set level with one anothe

safe but traction is poor; and outdoor carpet has potential but it is comparatively expensive and best suited to a flat area where it can be glued down without concern for upcoming seams. Therefore, combination solutions are most common. A soft base is provided under and around each piece of equipment (sand, dirt, tanbark, rubber matting, or carpet) and the pathways are created with cobblestones, asphalt, wood, or stabilized gravel (sandy gravel and clay). The open area could include still another material. Grass could have a fighting chance in this larger area; dirt could be off limits after a rain; carpet could be laid on a flat, open area, and asphalt could provide a base for the movable motor equipment mentioned earlier.

If two dissimilar materials are used, they should be set level with one another where they meet to allow continuity of movement (no tripping) between one play node and another.*

*Moore (1966, p. 78) found that moderate barriers did not deter movement in a straight line for older children but did deter children under 5 years of age. But it seems reasonable to assume that the separation created by a change of material would not constitute a barrier even for the under-5's. In fact, a change of material between the movement path and the surface surrounding a play node would give the subtle degree of distinctness (to the play node) suggested previously.

Passive Outdoor Play Area

Pat

Sand play, water play, digging, construction, gardening, and animal play are provided in the indoor play group environment, so they will *always* be available for use, but they are ideally pursued *outdoors* where there is more space and fewer things that can be damaged by their exuberant use.

Art and cognitive activities, on the other hand, are primarily indoor activities that can be moved outdoors during mild weather to provide a change of pace or to utilize the potential for increased scale, e.g., larger paintings, murals, and sculptures can be tackled outdoors and cognitive apparatus can be developed that is more like a machine than a hand tool.

All these activities when pursued outdoors are still *passive* and manipulative as compared with the large muscle play in the action area. This distinction suggests a separation between these two types of play. From Moore (1966):

The analysis strongly implies the spatial separation of the environment stimulating action from that stimulating creative play. Patterns of action and patterns of creation have entirely different spatial and temporal characteristics. They are engaged in independently of one another, action even tending to disrupt creation. In an environment that presented the opportunity, creation and action were not combined in the same sequence; for example, from swings to sand-pit, to the Tower to water play, etc., was not a common sequence. (p. 89)

This separation between the action and passive areas can be accomplished in many ways (see solution examples that follow) but its primary function will be to limit fast movement flowing from the action area into the passive area.

It should also be noted that this distinction between passive and action is a general one that should allow for obvious exceptions. For example, in Pattern No. 31 there are some large muscle activities listed as action play, like balancing, crawling, pushing, and pulling, that could take place more safely in the passive area and, in a similar turnabout, a passive activity like water play may sometimes take the form of a squirting hose and running children and should be located in the action area.

To fulfill the particular requirements of the passive activities mentioned above, localized play areas will need to be created (See requirements of each Pattern). These localized areas should be enhanced by a "sense of enclosure" which protects the children playing within each area. From Moore (1966):

The participants in creative activity were inward looking, absorbed in what they were doing and not easily distracted by visible activities in adjacent areas. On the other hand, they would often not take kindly to the intrusion of another group that would not understand the 'project' being undertaken—often disrupting or even destroying it.

The influence of physical enclosure on creative activity is fairly clear. However, it was difficult to separate out sense of enclosure or spatial definition as independent variables

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Pattern 32

sive areas can be accomplished in many ways (see solution examples that follow) but its primary function will be to limit fast movement flowing from the action area into the passive area.

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The influence of physical enclosure on creative activity is fairly clear. However, it was difficult to separate out sense of enclosure or spatial definition as independent variables in order to assess their importance. One situation on the playground does afford us some help—the sand-pit. Sand play did occur in this area far more frequently, despite the fact that there were many other areas of sand. . .the pit was a clearly defined space, expressing a fairly strong sense of enclosure to the child kneeling down playing in it. (p. 109)

Since the children will be relatively stationary, this enclosure should also protect them from excessive sun on hot days but allow its warming rays on cold, clear days. A similar device should protect against excessive wind but allow cooling breezes. This climatic protection may be provided for large parts of the passive area or individually for each local area (see Pattern No. 34, *Covered Outdoor Play*).

In the action area movement between localized areas was as prevalent as focused play. In the passive area focused play is dominant but there is some mobile play. From Moore (1966):

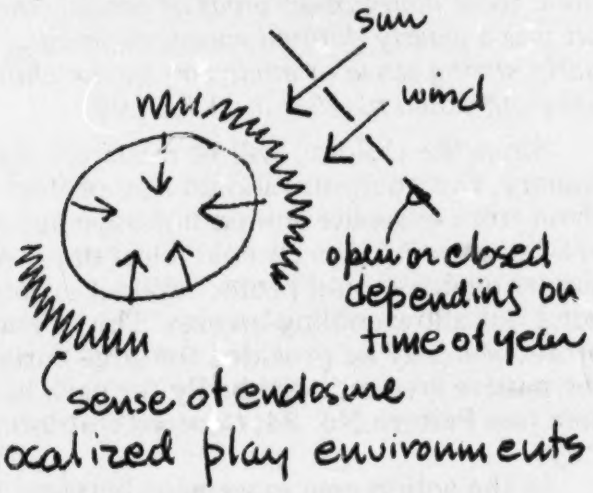
The foregoing examples primarily occurred in one spatial location on the playground. A creative sequence could also be spatially mobile, though less frequently so. (p. 84)

For example, water will be carried to the sand area, construction materials may be brought into the sand or digging areas, or construction materials may be carried from one building location to another. A path system should allow this movement but at a slow pace to minimize disruption of the focused activities, i.e, an indirect path. Open

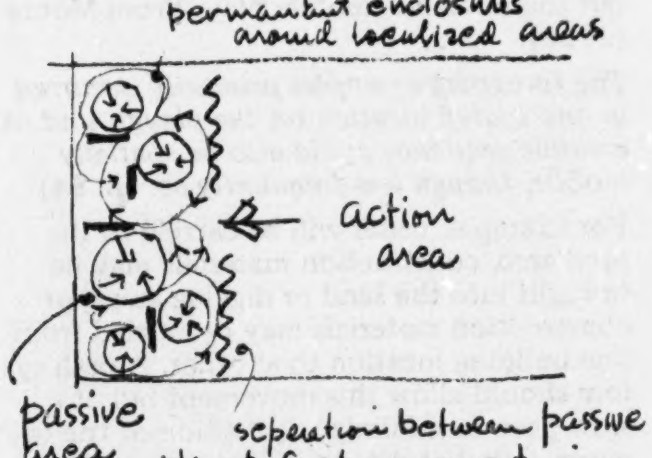
areas should be integrated with the path system for use by wheeled toys (bikes, wagons, etc.)

The surface of each localized play area should be a material that will fulfill the requirements of its particular resident activity. Similar surfaces can be placed adjacent to one another to create larger areas of space with a greater multi-use potential (see surfacing discussion in Pattern No. 31).

The following is a diagrammatic summary of the above requirements:

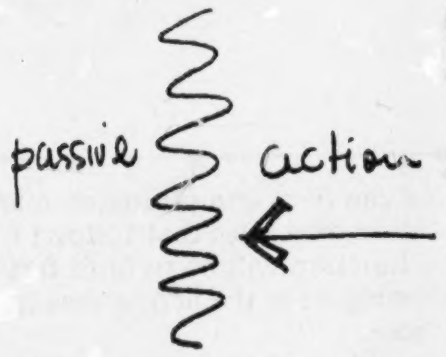


No. 1


indirect path - movable or permanent enclosures around localized areas
action area
passive area
seperation between passive play & fast movement in the action area.

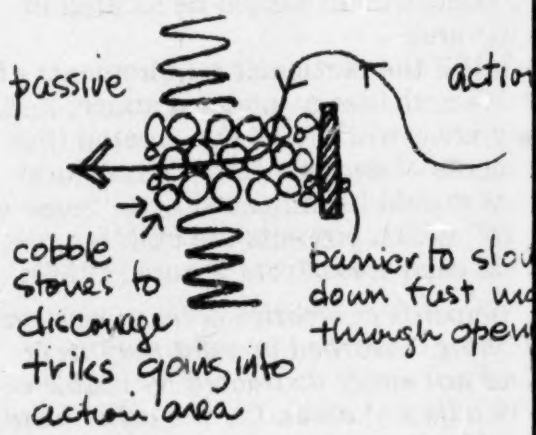
No. 2

Example Solutions



No. 3

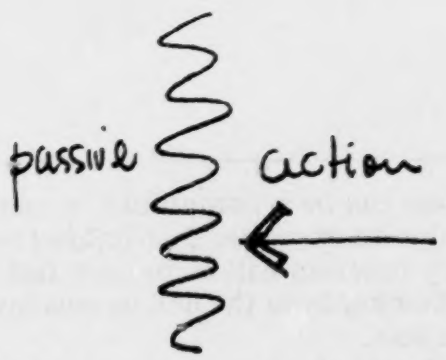
Diagram No. 3: Separation between th tion and passive play areas can be crea a low wall, by shrubbery, by a perman wading pool, etc. Any openings in this should allow free flow, help slow dow movement, and discourage trikes from into the action area (see Diagram 3A).



No. 3A

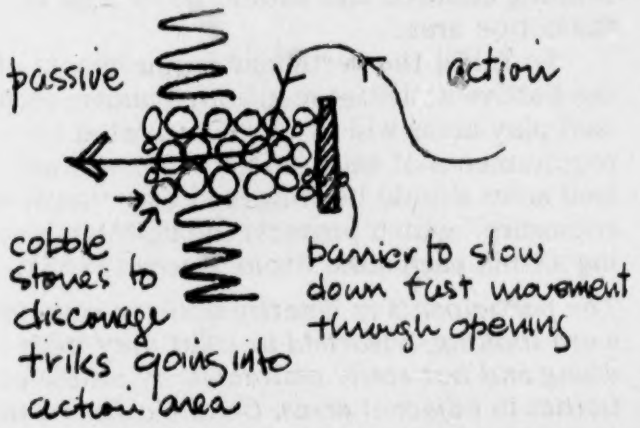
Diagram No. 4: Separation can be cre by placing some localized passive area the semi-shelter and screening others the shelter. The hypothesis—the shad ated by the roof of the shelter will sl down traffic.

Example Solutions



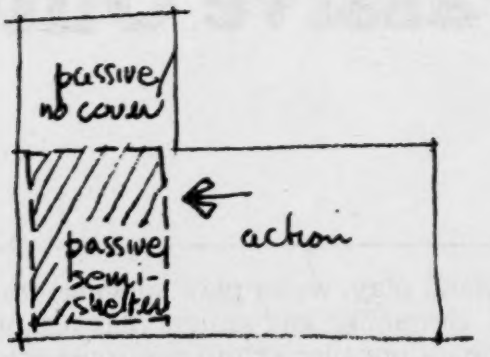
No. 3

Diagram No. 3: Separation between the action and passive play areas can be created by a low wall, by shrubbery, by a permanent wading pool, etc. Any openings in this wall should allow free flow, help slow down fast movement, and discourage trikes from going into the action area (see Diagram 3A).

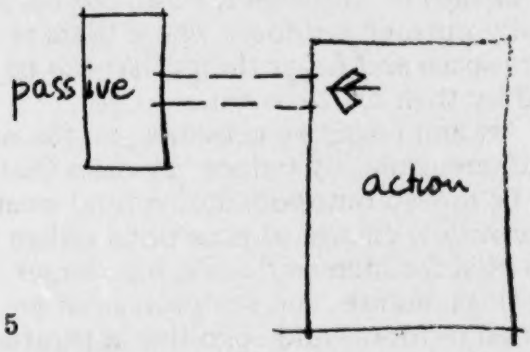

passive
action
cobble stones to discourage triks going into action area
barrier to slow down fast movement through opening

No. 3A

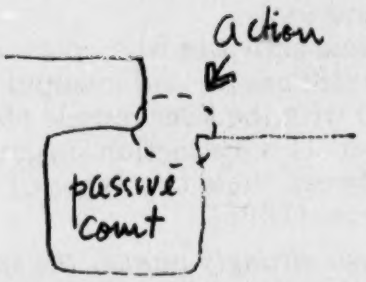
Diagram No. 4: Separation can be created by placing some localized passive areas under the semi-shelter and screening others with the shelter. The hypothesis—the shadows created by the roof of the shelter will slow down traffic.



No. 4

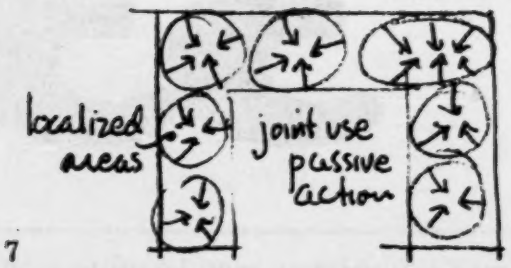


No. 5



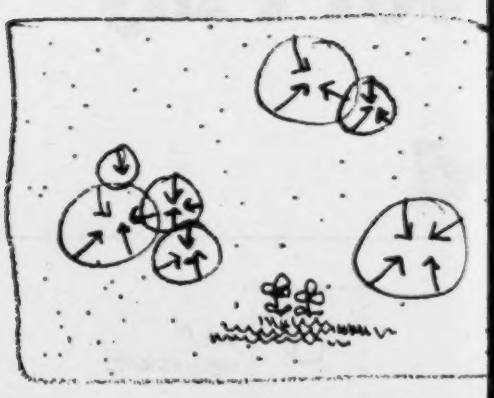
No. 6

Diagrams No. 5 and No. 6: Separation is created by a narrow spatial connection between the action and passive areas. The narrow passage will require a deliberate move into the passive area by the child, probably signifying a desire to change to a slower pace. This would be especially true if the passage was through an indoor area to a quiet court on the other side of the building. See Pattern No. 33 for the supervision of this quiet area. (See Early Learning Center, Bellehaven Children's Center, and the Children's Home, appendix.)



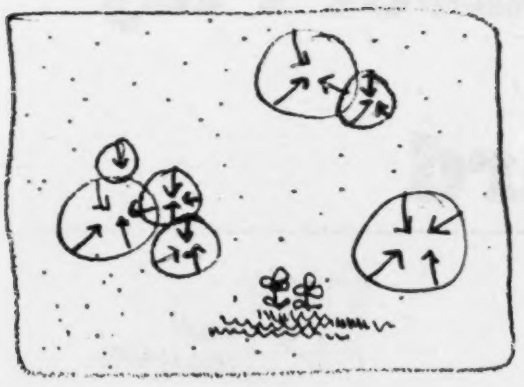
No. 7

Diagram No. 7: In a small play yard separation can be provided by placing both the passive and action localized areas at the periphery of an open area. The smallness of the open area will cut down on extensive running and will allow both passive and action use.



No. 8

Diagram No. 8: Separation between th
tion and passive areas can be created i



8

gram No. 8: Separation between the ac-
n and passive areas can be created in a

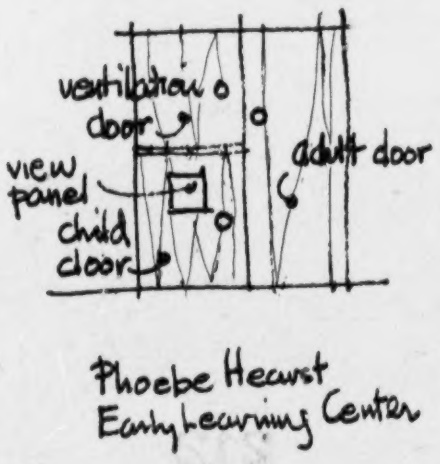
No. 8A

large play area by placing action play nodes at a distance from the passive localized areas (spatial separation). This same generosity of space will allow manipulation of the terrain to provide enclosure to the localized play nodes, rather than deliberate physical barriers (Diagram No. 8A). (See Bing Nursery School, appendix.)

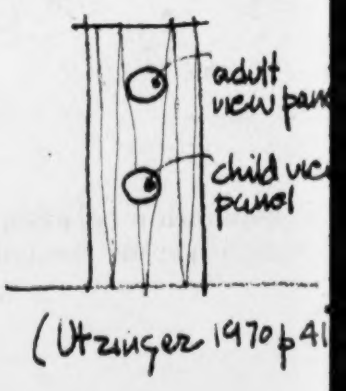
Relationship: Indoor Play Environment/ Outdoor Play Yard

This pattern assumes that there will be periods of free play during which the children will be allowed to flow freely between the indoor group play environment and the outdoor play yard (Kellogg, 1949, P. 150). During inclement weather this flow may be limited to the covered portion of the outdoor play yard (the semi-shelter, Pattern No. 34), and during extremely hot or cold weather it may be terminated until milder weather prevails.

To facilitate this movement the children should be able to move between the indoors and outdoors without assistance from the teacher. Therefore, the door to the play yard should be operable by the children. Several excellent solutions are shown below (Diagrams No. 1, 2, 3, and 4). During mild weather, free flow may be further enhanced by providing a door closer that can be fixed open or by the use of a sliding door.



No. 1



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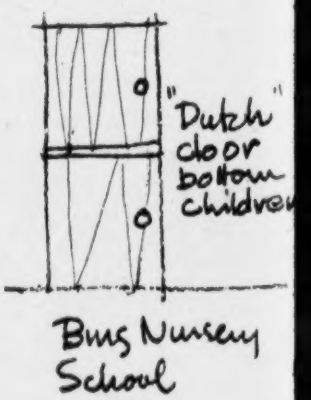

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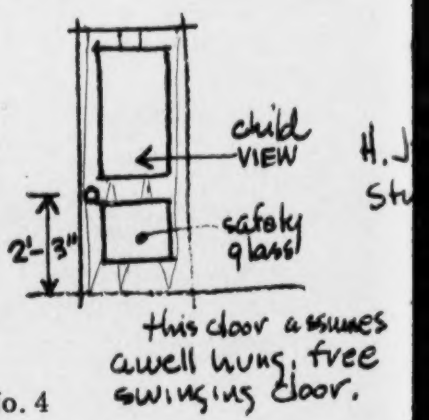
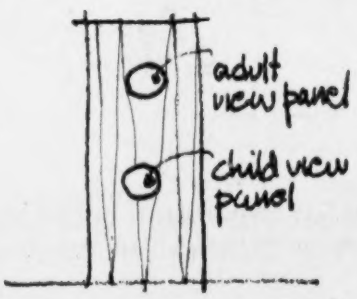


No. 4

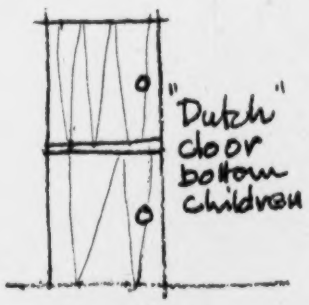
loor Play

rd

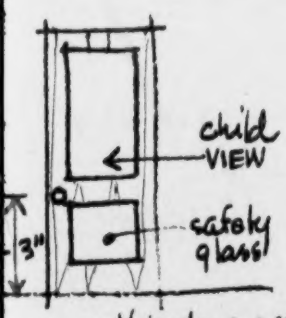
Pattern **33**



(Utzinger 1970 p 41)



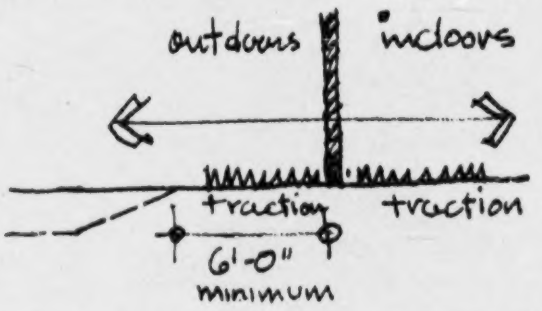
Bing Nursery School



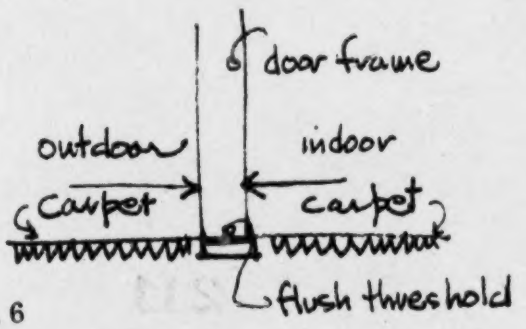
H. Jones Child Study Center

this door assumes a well hung, free swinging door.

Since the children may be quite active when moving between indoors and outdoors, the path of flow must be considered in terms of safety. Any abrupt changes in level could produce accidents from tripping, and any changes in floor texture could produce an accident when a wet or sandy shoe moves abruptly from a rough surface (i.e., concrete) to a smooth surface (i.e., vinyl tile). Therefore the indoor/outdoor path must be ramped or level, the door threshold flush with adjoining surfaces, and the entry point provided with a transition place that allows a child to get traction when speeding up (going outside) or when slowing down (coming inside) (Diagrams No. 5, 6, and 7).



No. 5



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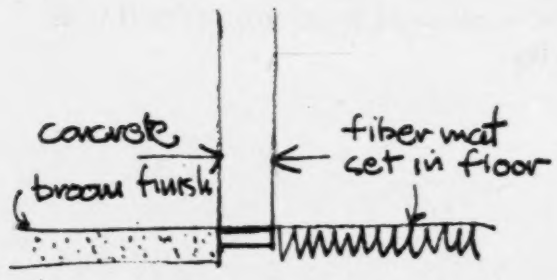


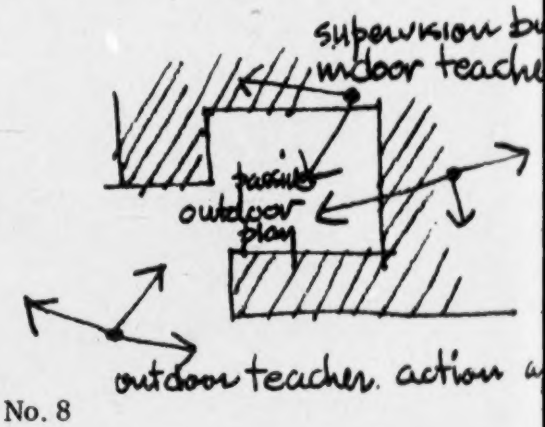
No. 7

A door stop will be needed outside the door (6′-0″ minimum) in a ramped solution to allow a child to pull open the door safely when coming in and to prepare to go down the ramp when going out. If a view panel is used to protect the children from swinging doors, it should be large enough to allow maximum viewing by a quickly moving child (Diagrams No. 1 and No. 2, no; Diagram No. 4, yes).

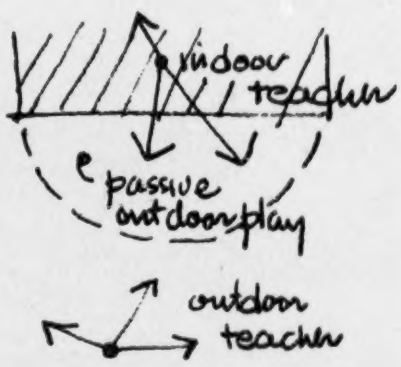
The window design on the wall between the indoor play environment and the outdoor play yard can also support indoor/outdoor play. If a child can view between the two areas he will always have the maximum number of play choices in view (Pattern No. 11). This requirement need not be solved to the *n*th degree since it appears from observations that a child when inside only views the close-in areas outside the windows (depth of field at pre-school age?) and when outside only looks inside when he gets near the building.*

*An existing space without the possibility for a view between the indoor group play environment and the outdoor play yard could still allow indoor/outdoor play if the path between the two areas could be traversed safely, and if there were adequate supervision indoors and outdoors. This sometimes occurs in a Center with ramp access to a rooftop play yard (Le Corbusier, 1968). Although the ideal relationship discussed above can reduce the number of supervisory personnel.

To provide maximum supervision the children there are several authors suggest a view outdoors by the indoor and a view indoors by the play yard t From observation, it appears that this ment has some merit but within consi limits. The outdoor supervising teache ally stations herself central to the acti tion of the play yard (Pattern No. 31) has enough to do without trying to vi follow a child indoors from 20 to 40 But it is quite helpful to the yard teac the indoor teacher can see the area cl the building. In fact, a view of the ou area that is close to the building allow outdoor play yard to be divided into areas, some of which can be supervise inside the building (Pattern No. 32) (D grams No. 8, 9, and 10).

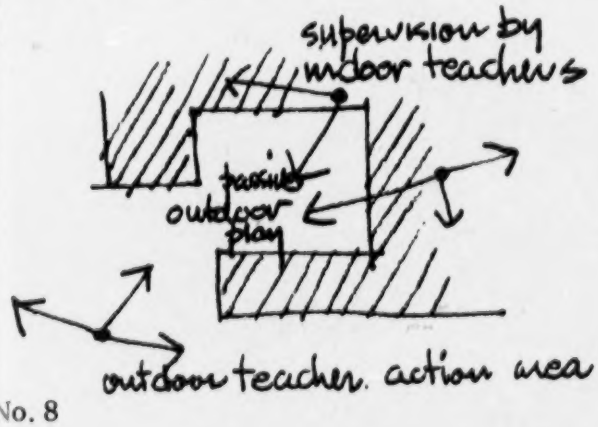


No. 8



No. 9

To provide maximum supervision for the children there are several authors who suggest a view outdoors by the indoor teacher and a view indoors by the play yard teacher. From observation, it appears that this requirement has some merit but within considerable limits. The outdoor supervising teacher usually stations herself central to the active portion of the play yard (Pattern No. 31) and has enough to do without trying to visually follow a child indoors from 20 to 40 ft away. But it is quite helpful to the yard teacher if the indoor teacher can see the area close to the building. In fact, a view of the outside area that is close to the building allows the outdoor play yard to be divided into several areas, some of which can be supervised from inside the building (Pattern No. 32) (Diagrams No. 8, 9, and 10).



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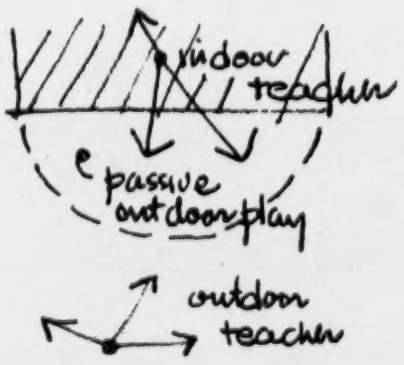
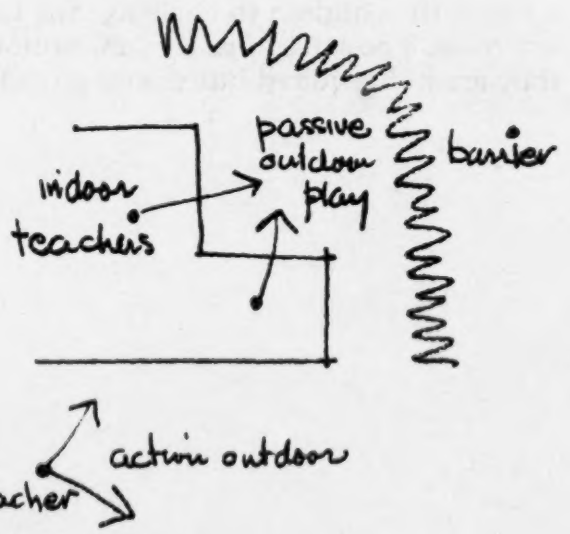


No. 9



No. 10

Additional teachers in the group play environment will not change this pattern but will act as additional hands and eyes.

To fulfill the requirement for indoor/outdoor viewing from close to the building, child and adult sight lines should be calculated for each scheme under consideration (child heights—Ramsey and Sleeper, 5th ed.). This viewing could be effected by a change in floor levels between indoors and outdoors or by the placement of work counters at the windows (Pattern No. 24).

Pattern No. 30 suggested the possibility of a scheme in which a small play yard is alternately used by several indoor play areas. A scheme of this type would require a transition zone in the play yard which protects quiet work from concurrent outdoor play. A minimum solution would provide blinds or curtains on the windows.

A Center that requires the children to remain outdoors during outdoor play periods will have a relatively slow flow between indoors and outdoors. The convenience of having a child-size door and views in and out should not be included since they will en-

courage the children to challenge the teacher's rules. The safety features are optional; they are not required but would provide an added margin of safety. If all the
are in the play yard with the chil
view should be provided into the

the teach-
optional;
provide an

added margin of safety. If all the teachers are in the play yard with the children, a view should be provided into the indoor toilet area to allow supervision of a child who is allowed to go inside for this activity.

Covered Outdoor Play

Patter

Outdoor play is a valuable part of the daily program (Pattern No. 30) and teachers would like to make it available to the children for year around use (Landreth, 1942, p. 27; Kellogg, 1949, p. 150). Ideally this suggests covering the total outdoor play yard with an operable roof that could be open or closed as the weather changed, but more realistically it suggests an area of the yard set aside as a covered play area—a semi-shelter. This area should be roofed with a permanent cover in most climates, since it will be needed during both summer and winter seasons (rain, snow, excessive wind and hot sun).

The semi-shelter will contain both passive and action play when it acts as a substitute for the outdoor play yard. The equipment for this play should be portable to allow for one configuration during inclement weather and another configuration during mild weather when the action equipment will be moved to its area and the passive equipment placed outside or in a new location under the shelter. To allow for this variety of equipment and for free movement of the children, there should be a minimum of internal structural supports under the shelter.

The sides of the shelter should be protected with an operable screening device that gives protection from blowing rain but can be opened during mild weather to bring in maximum sunshine and cooling breezes. The passive play nodes not permanently housed under the semi-shelter should be provided with temporary shading during the summer (trees, canvas, umbrellas, etc.) and be open to the warming rays of the sun in winter.

It should be stressed that the semi-shelter is an *outdoor* space. If heating or cooling devices are installed to allow use of the shelter on extremely hot or cold days, they should only change the temperature slightly, i.e., make outdoor play possible.

We have shown two uses for the shelter: as an outdoor play area during inclement weather, and as an extension of the passive play area during mild weather (Pattern No. 32). To these uses we should add its potential as an extension of the indoor play area. Mrs. T. Harms, the director of the H. Jones Child Study Center (appendix) explains their facility:

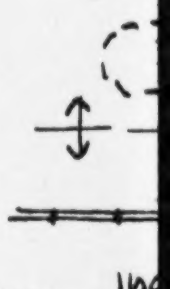
As for a semi-sheltered area, obviously it permits children to be outside in weather that otherwise would keep them in. But the University School has also found it an excellent place for such noisy activities and messy activities as carpentry, use of large blocks, and painting. By taking some of these activities outside, we create a much more relaxed atmosphere inside. (EFL, 1970A, p. 6)

To allow the semi-shelter to be used as an extension of the indoor play area it should be accessible from the indoors under cover, and to allow its use as an extension of the passive outdoor play area (Pattern No. 32) it should face onto that area (Diagrams No. 1, 2, and 3). For a further discussion of the indoor/outdoor relationship, see Pattern No. 33.

Example S

No. 1

No. 2



No. 3

oor Play

Pattern 34

summer (trees, canvas, umbrellas, etc.) and be open to the warming rays of the sun in winter.

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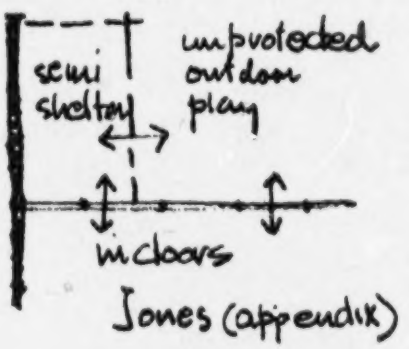
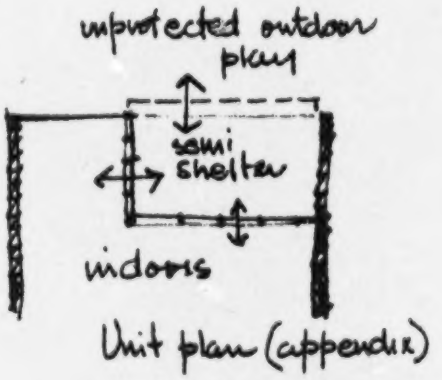
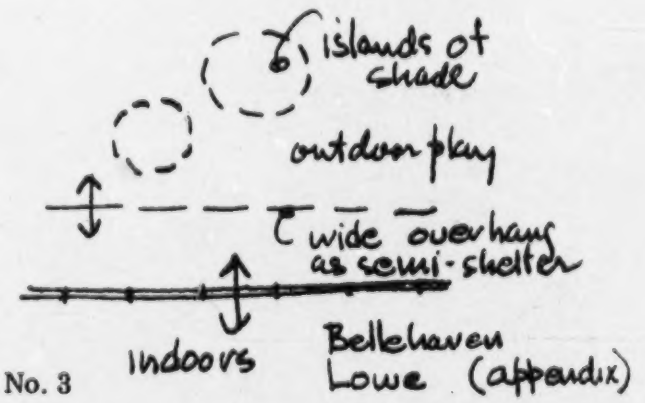
Example Solutions



No. 1



No. 2



No. 3

References to the size of a semi-shelter are few; Landreth and Moise (1949) recommend about 10 to 15 sq ft, and the very successful shelter at the H. Jones Child Study Center (see floor plan, appendix) works out to be 37 sq ft per child. But upon cl amination of the Jones shelter, the au found about 17 ft of this space was b used for storage. This would bring it line with the initial recommendation.

to be 37 sq ft per child. But upon closer examination of the Jones shelter, the author found about 17 ft of this space was being used for storage. This would bring it more in line with the initial recommendation. Our recommendation is 20 sq ft per child. To make sure the semi-shelter is not used for storage (it produces a dangerous play area), separate storage areas should be provided as recommended in Pattern No. 11.

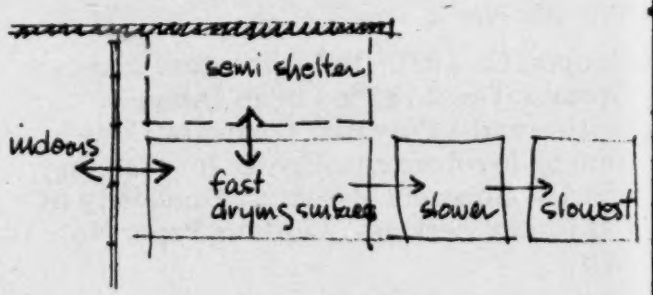
Outdoor Play Surfaces and Weather

Pattern No. 34 discussed the need for a semi-shelter that allows the children to play outside under a roofed area when it is raining or snowing. After the rain or snow stops falling or when it is not falling very hard, the children will be allowed to play in the regular outdoor play areas if the surfaces are sufficiently dry (no puddles or potential mud). From Kellogg (1949):

Except for rain, there is no need ever to keep the children inside, because fog, snow, mud and cold are not harmful in small amounts if the children are warmly clad. (p. 150)

This requires that all surfaces be well drained to encourage fast drying, including dirt and grass areas where water can collect in hollows. Surfaces should be sloped to drainage channels outside the yard, to dry wells, or to catch basins connected to an underground storm drainage system. If the budget allows, heating coils could be placed under hard-surfaced areas to encourage fast drying.

But with all surfaces adequately drained, they will still dry at different rates. To allow use soon after the snow melts or the rain stops, the fastest drying surfaces should be placed near the exits from the indoor play environment and the semi-shelter and the slow-drying surfaces farther away. This would place asphalt, concrete, brick, or stone paving adjacent to the exits, tanbark, sand, and sawdust in the middle, and grass and dirt farthest away. This placement of grass would also aid young grass as it comes up in the spring (Diagram No. 1).



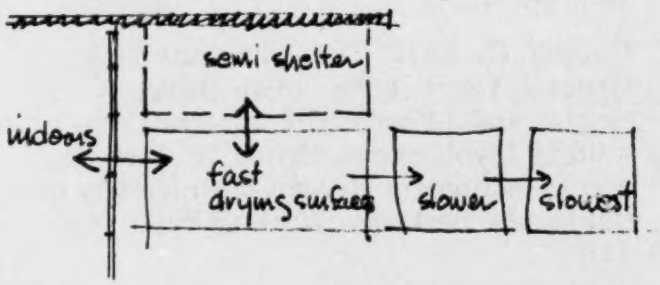
No. 1

A wood deck adjacent to the exit is a potential solution in an area with heavy snows, since it dries quickly and can be swept clean if the decking is loosely spaced. Another unusual solution is the use of carpet as an outdoor play surface. A relatively new product, it has been in use at several Centers for only a few years. It has been quite successful in terms of safety and durability, but it dries

y Surfaces

Pattern 35

environment and the semi-shelter and the slow-drying surfaces farther away. This would place asphalt, concrete, brick, or stone paving adjacent to the exits, tanbark, sand, and sawdust in the middle, and grass and dirt farthest away. This placement of grass would also aid young grass as it comes up in the spring (Diagram No. 1).



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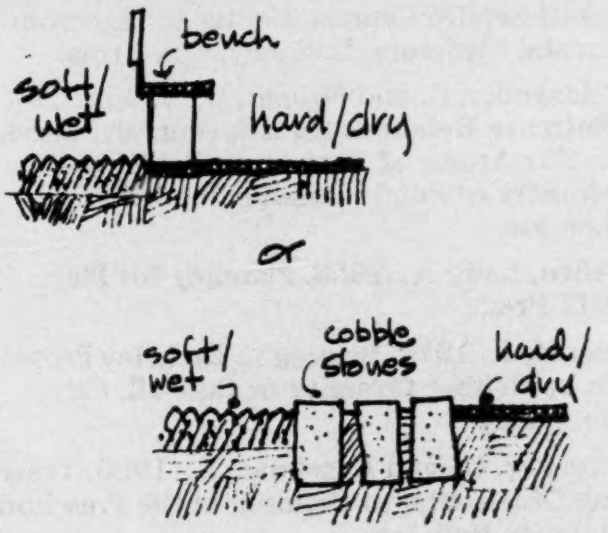
If a design solution evolves with a fast-drying surface abutting a slower drying surface, there may be a temptation to provide a raised curb to protect the softer surface, especially if it is grass or dirt. But this curb (4" to 6") would produce a safety hazard to a running child (Pattern No. 31) and should be either raised to a height where the curb becomes a definite barrier or be lowered to become only a suggested boundary, e.g., a band of textured material (Diagram No. 2).



No. 2

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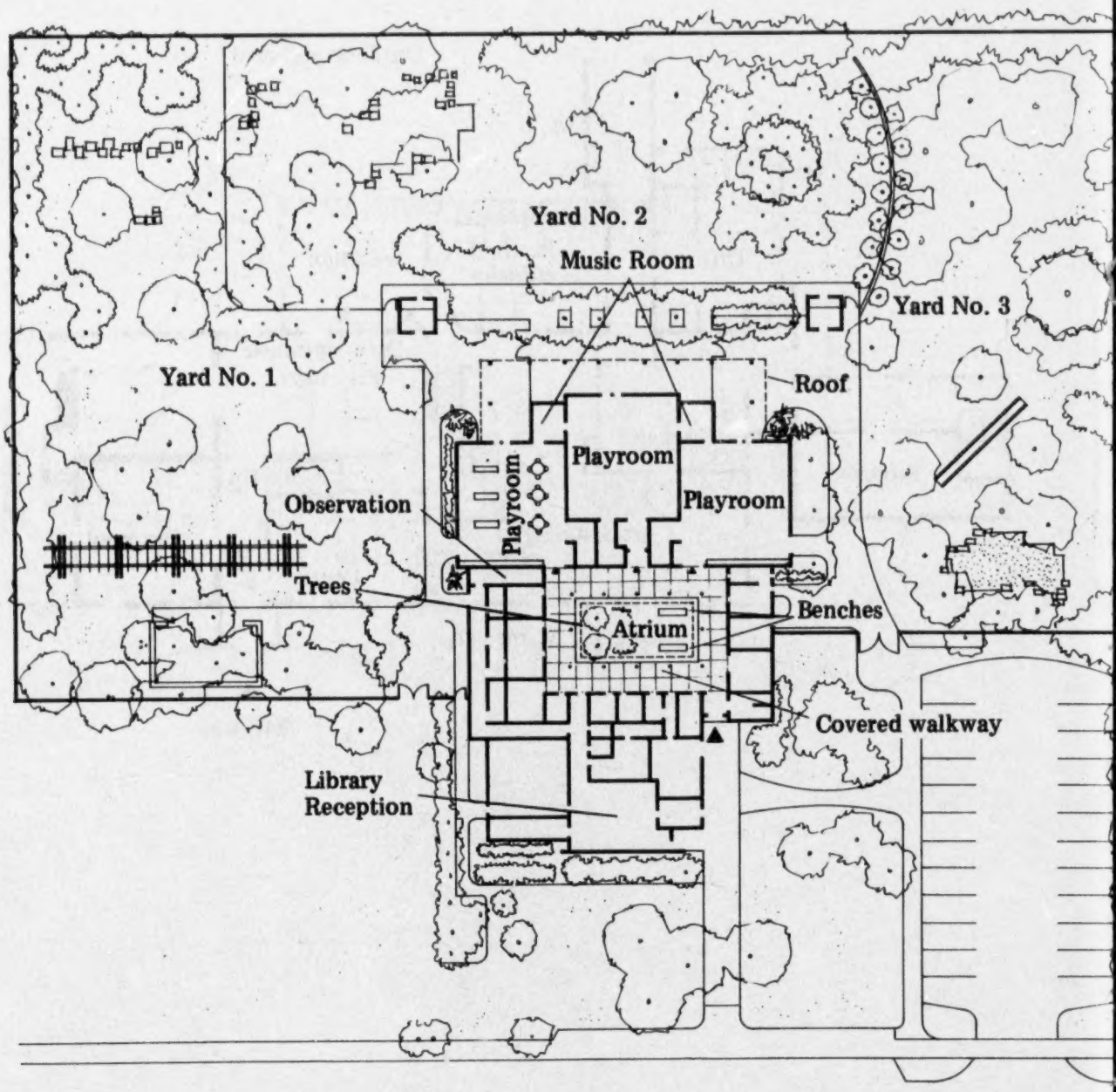
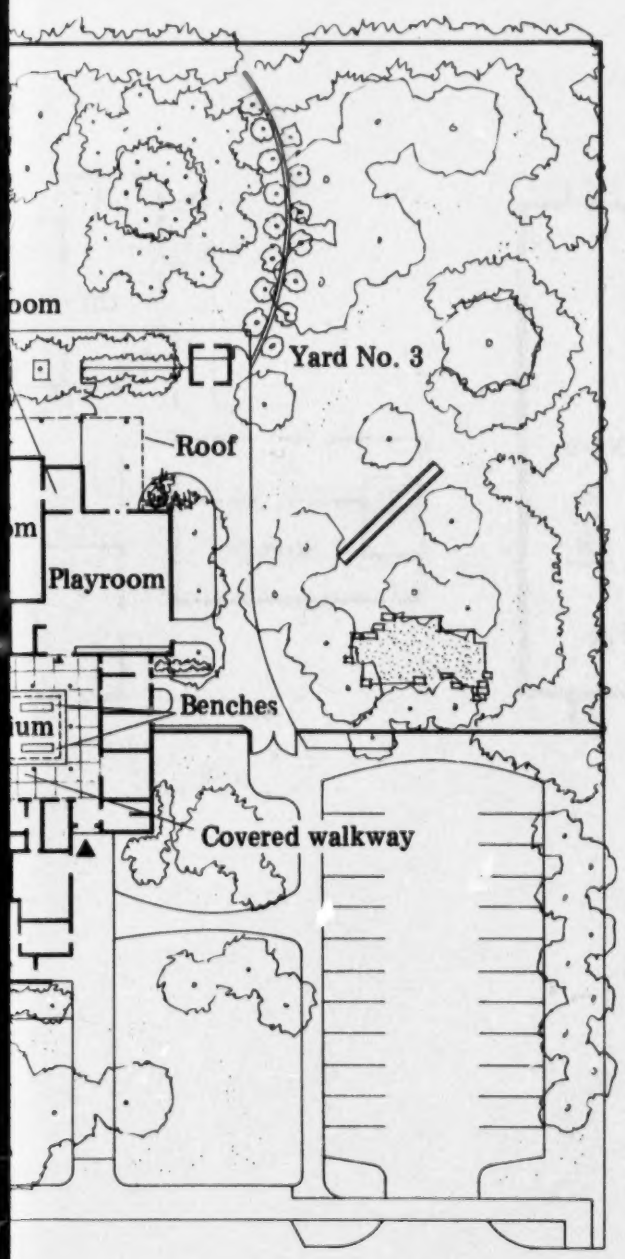
Floor Plans

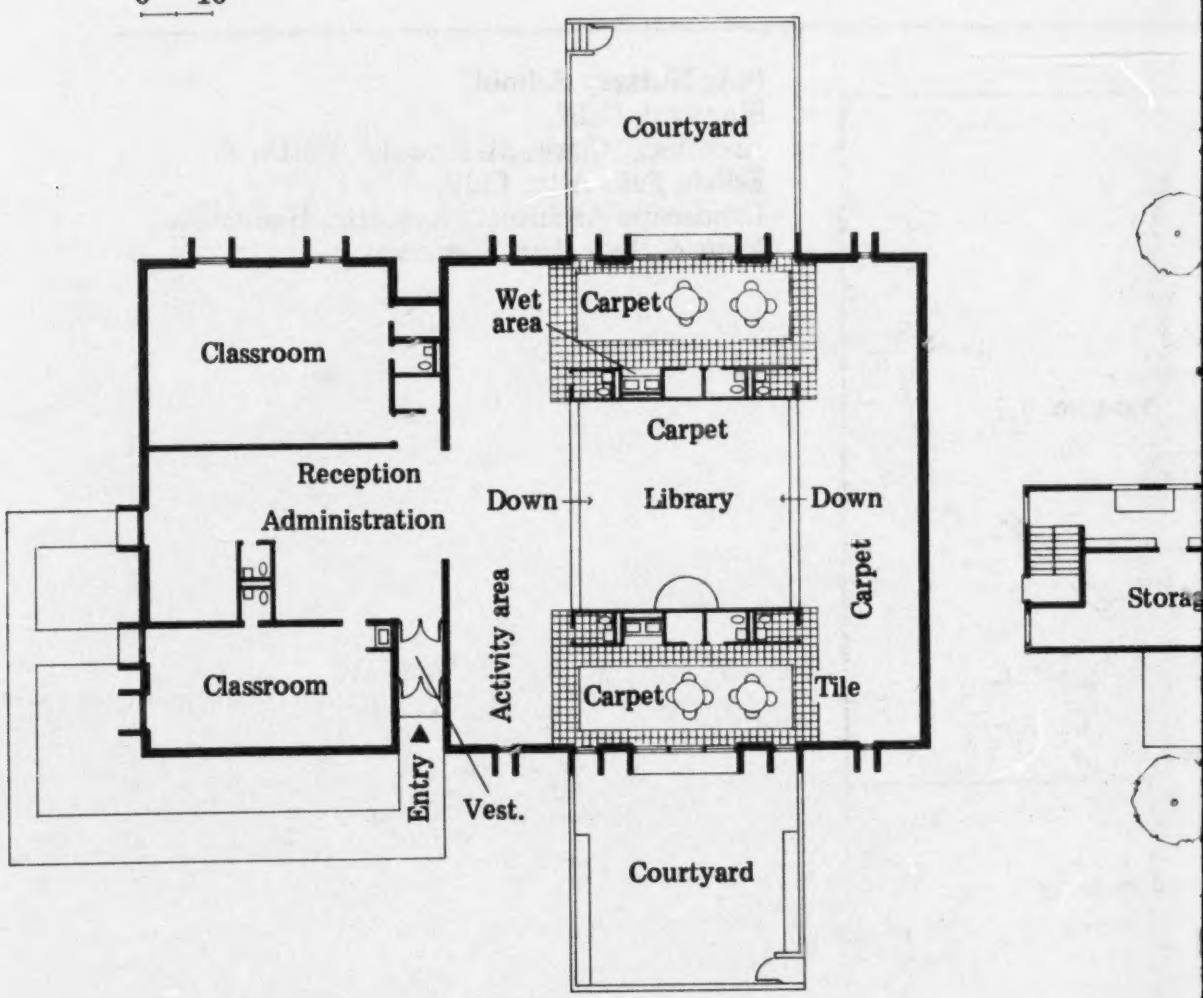

Yard No. 2
Music Room
Yard No. 3
Yard No. 1
Roof
Playroom
Playroom
Playroom
Observation
Trees
Atrium
Benches
Covered walkway
Library
Reception



Bing Nursery School,
Stanford, Calif.
Architect: Clark, Stromquist, Potter & Erlich, Palo Alto, Calif.
Landscape Architect: Royston, Hanamoto, Mays & Beck, San Francisco

232

Casady School,
Oklahoma City, Okla.
Architect: Benham, Blair & Affiliates,
Oklahoma City



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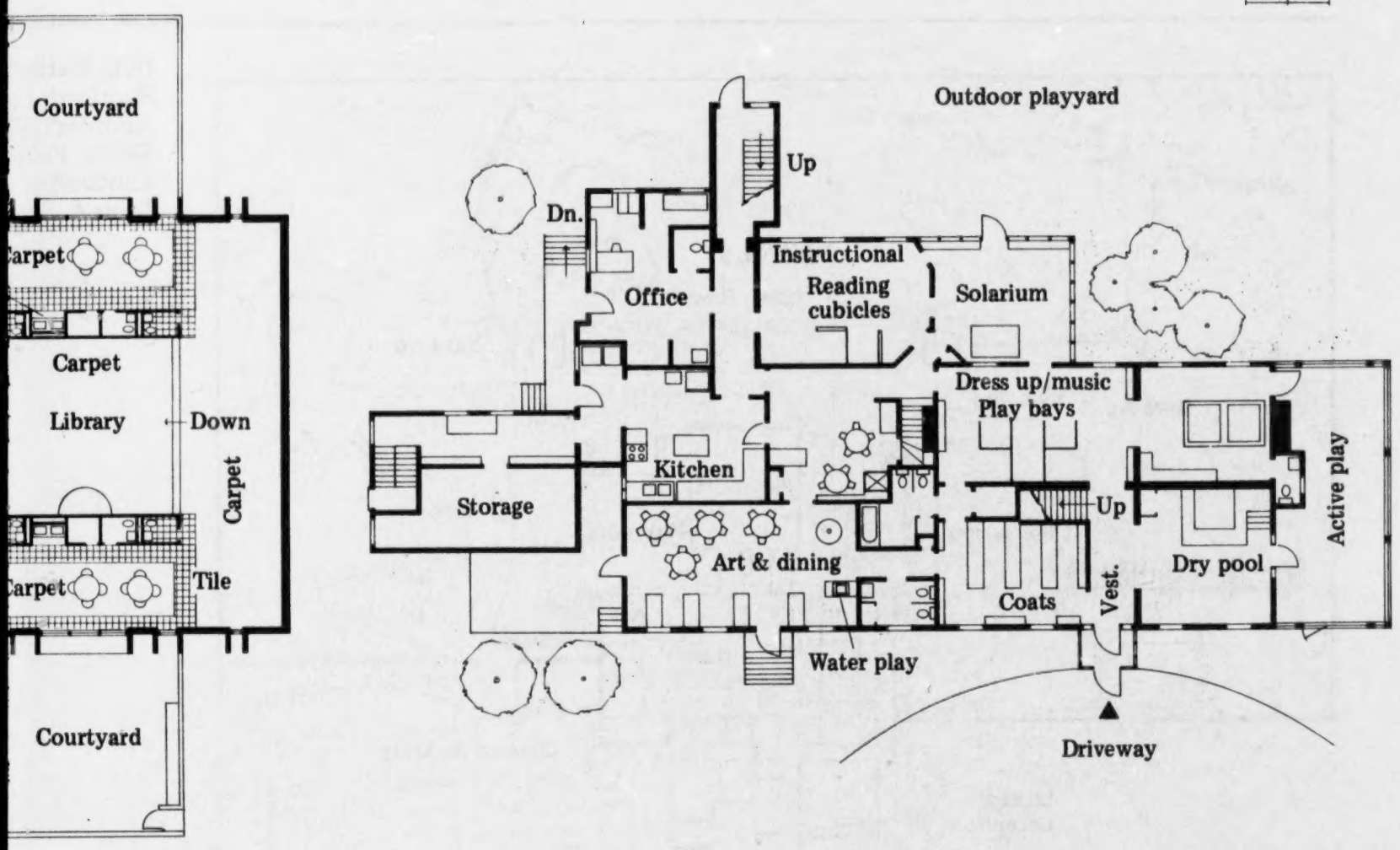
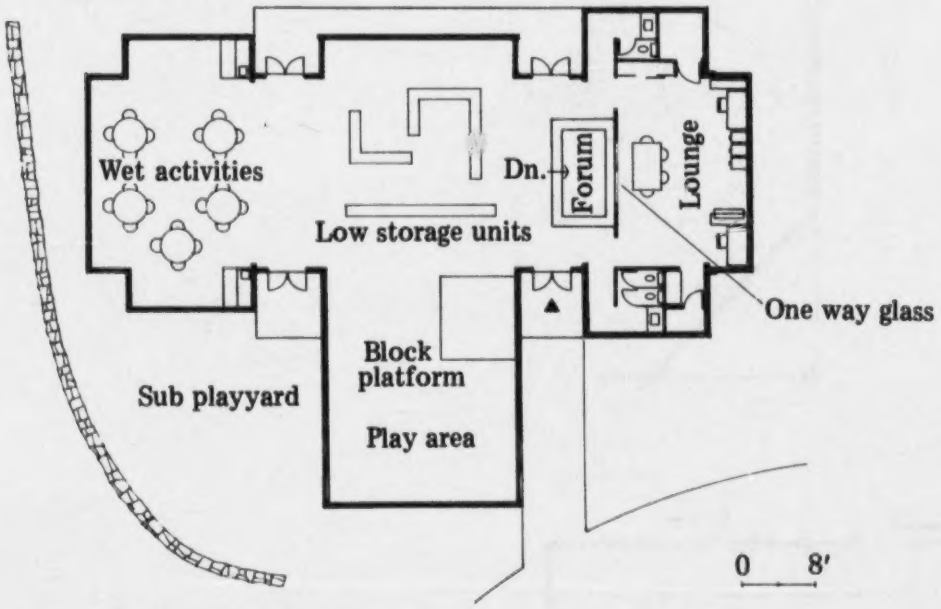
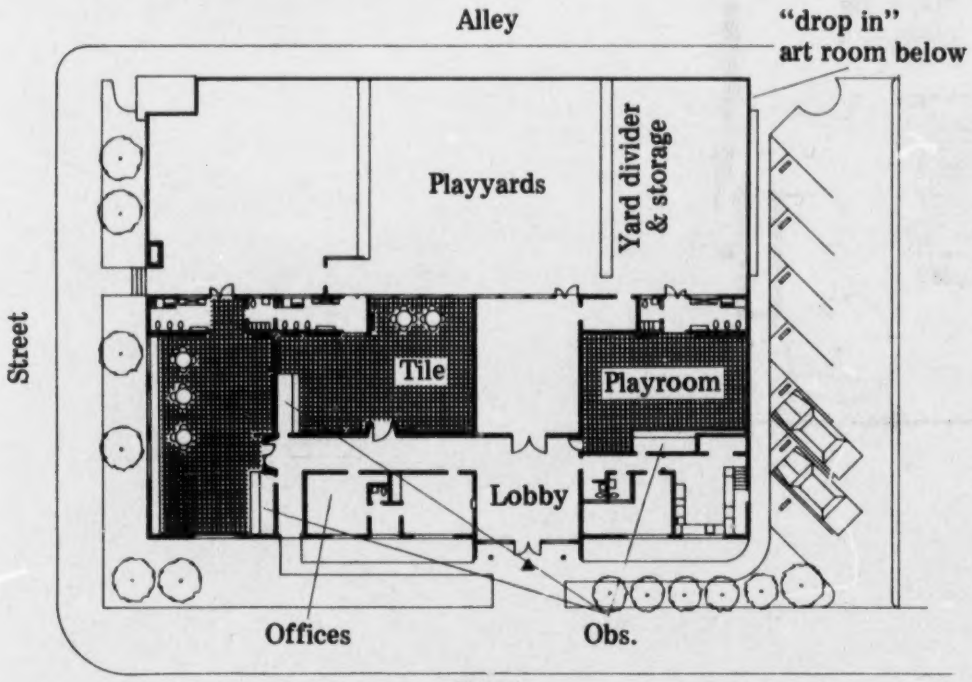
Child Minders School,
Greenwich, Conn.
Architect: Raymond F. Pavia,
New York City



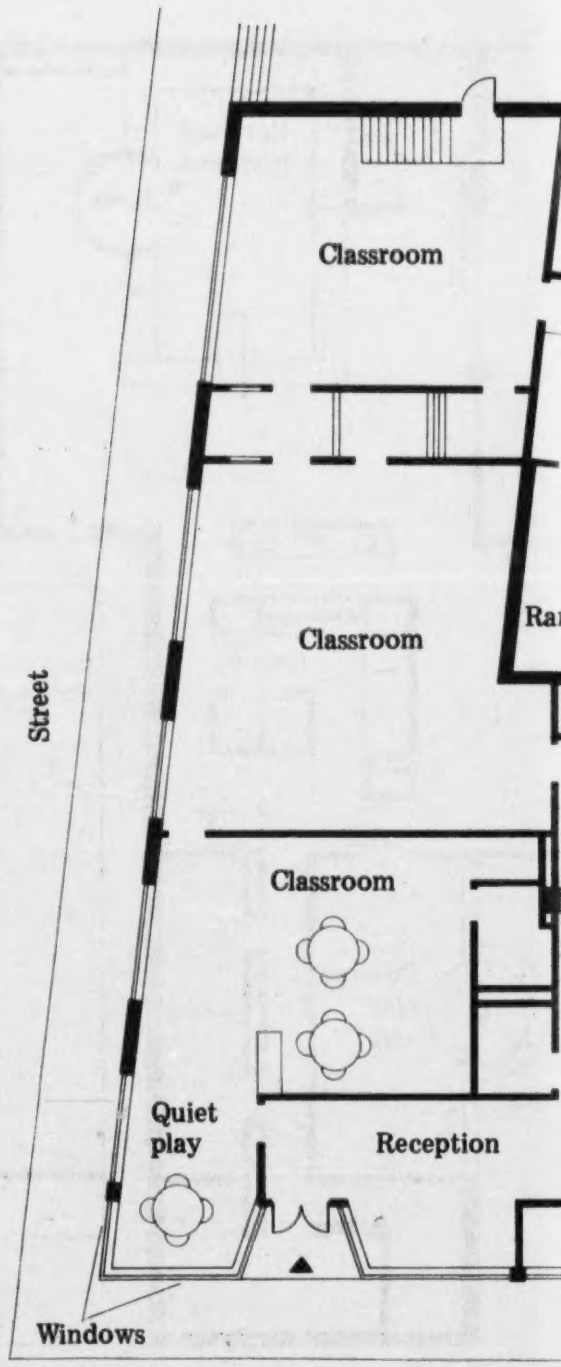
Early Learning Center,
Stamford, Conn.
Architect: Egon Ali-Oglu, Cambridge, Mass.



Phoebe Hearst Preschool Learning Center,
San Francisco, Calif.
Architect: William Fox, San Francisco



Hilltop Center,
Dorchester, Mass.
Architect: PARD-Team, B



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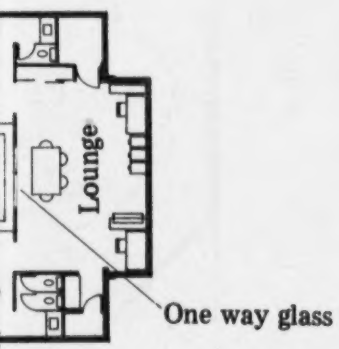

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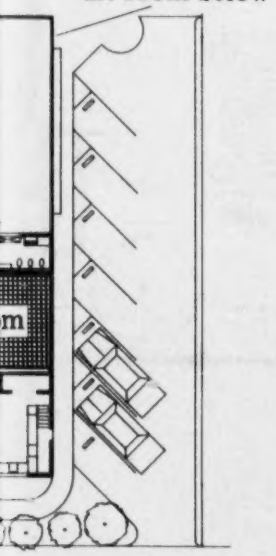
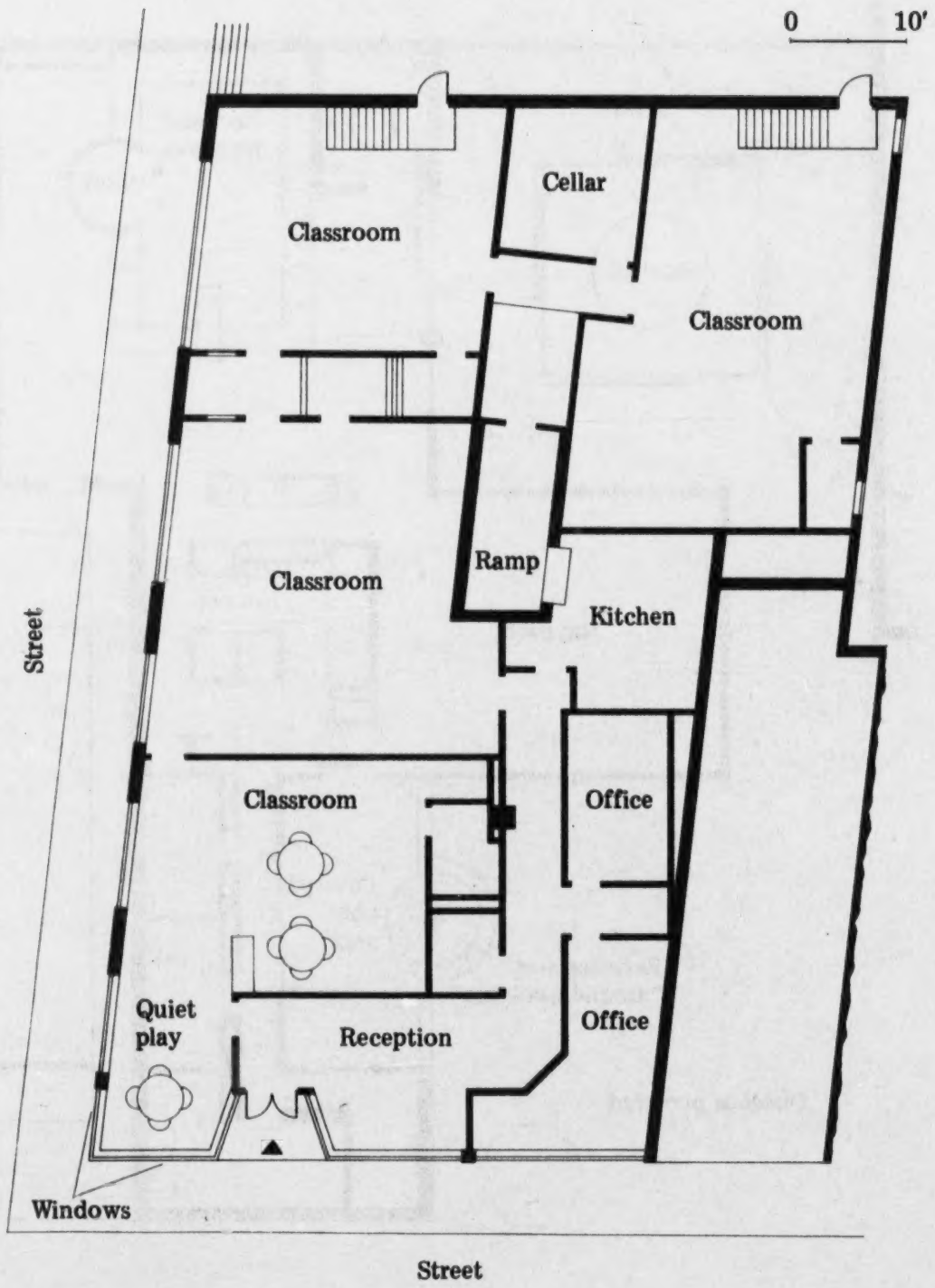
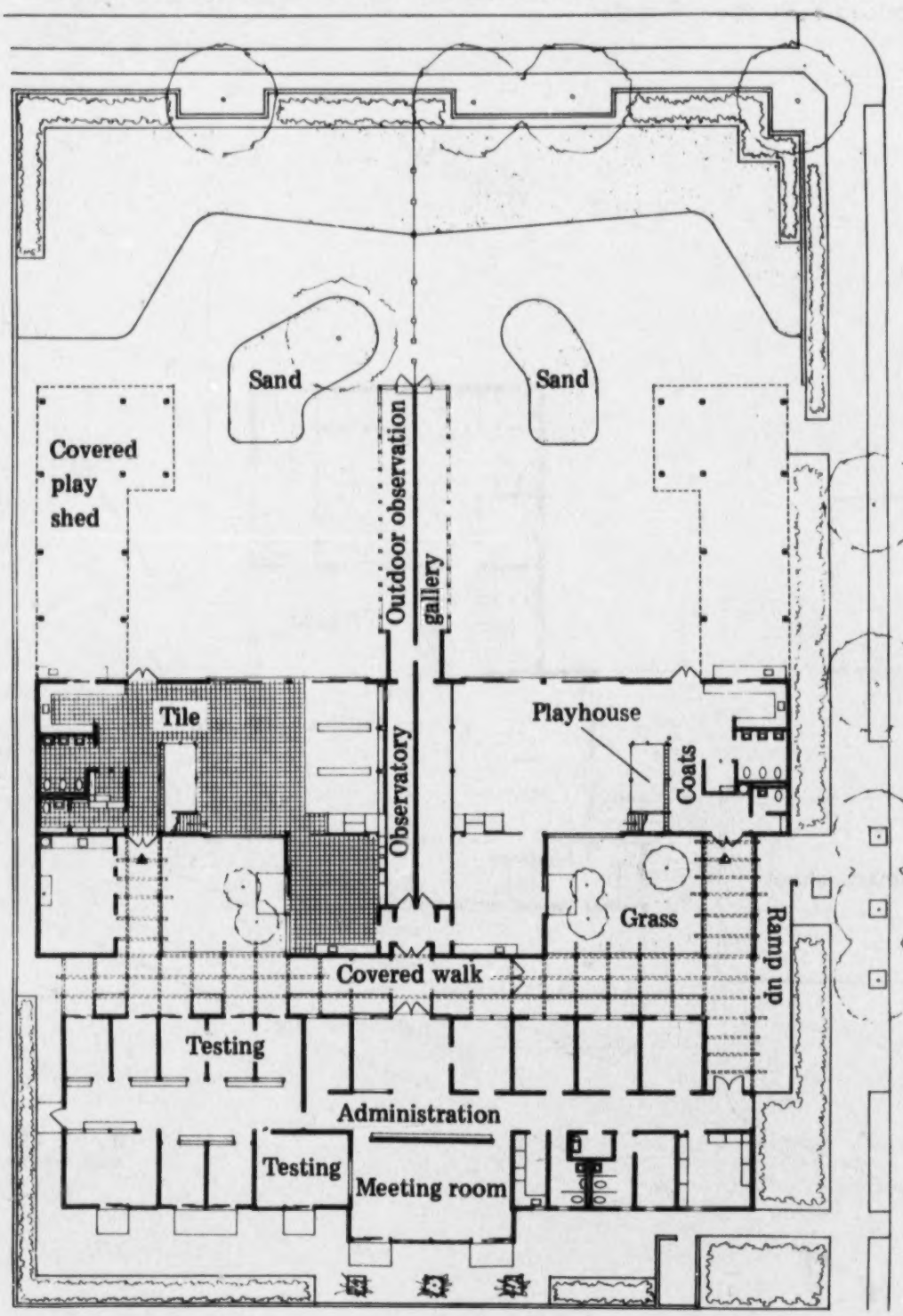
"drop in"
art room below



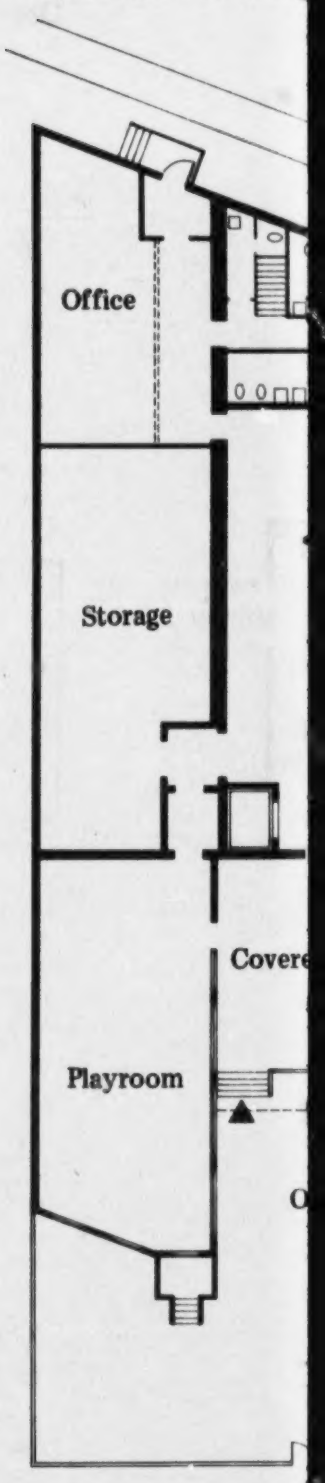
Hilltop Center,
Dorchester, Mass.
Architect: PARD-Team, Boston



Harold E. Jones Early Education Center,
Berkeley, Calif.
Architect: Joseph Esherick & Assocs., San Francisco



KLH Child Develop
Cambridge, Mass.
Architect: Hill & As



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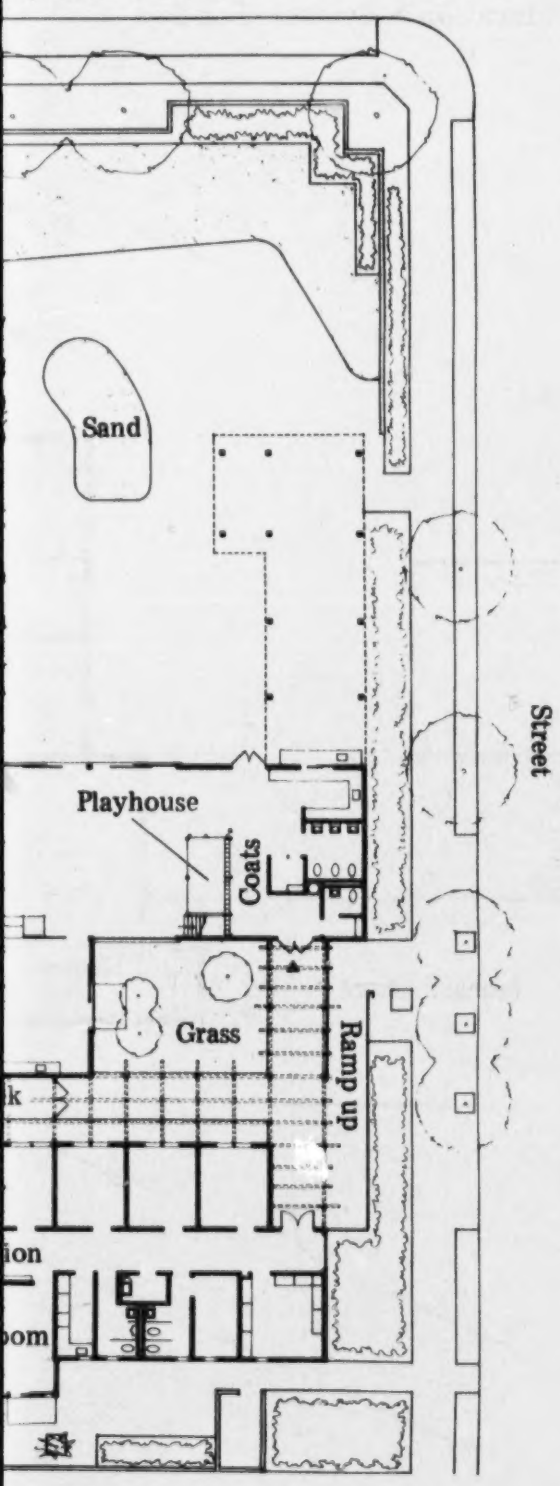
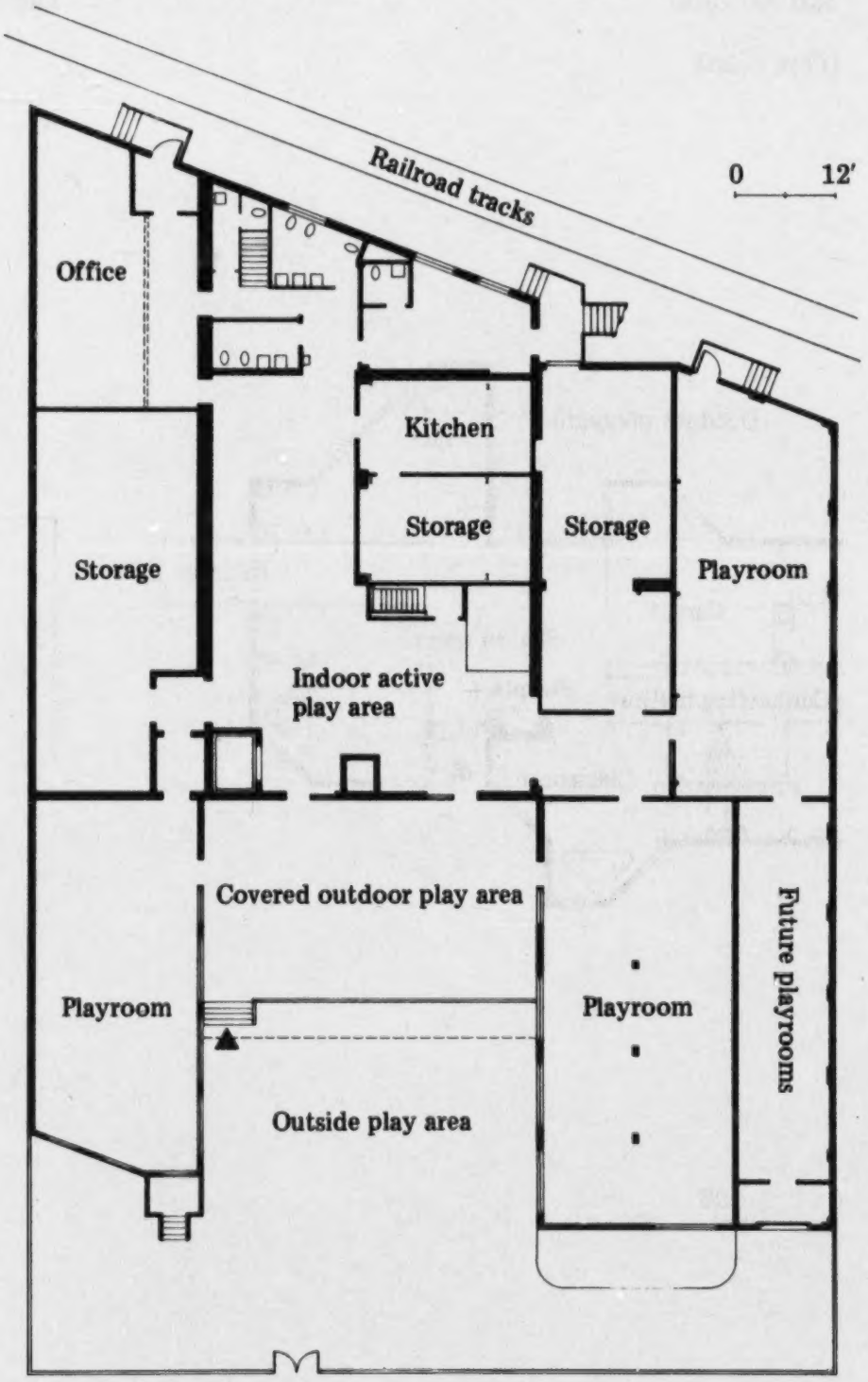


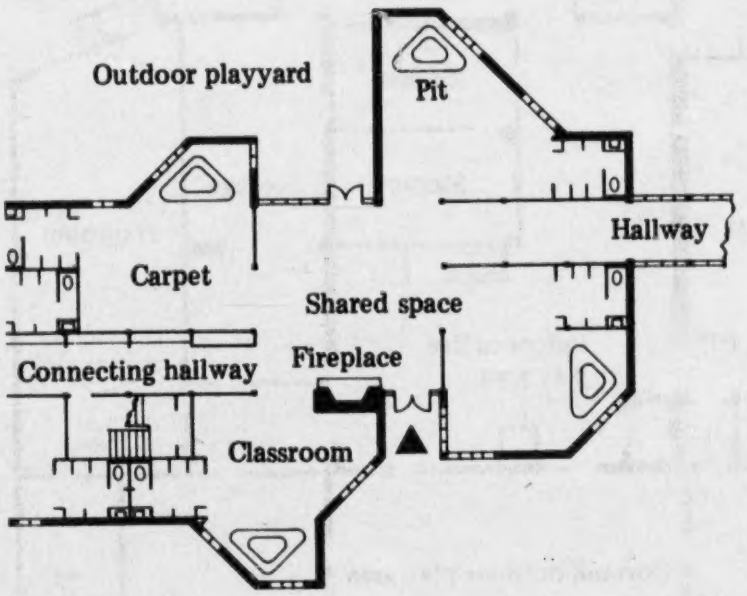
KLH Child Development Center,
Cambridge, Mass.
Architect: Hill & Associates, Inc., Cambridge



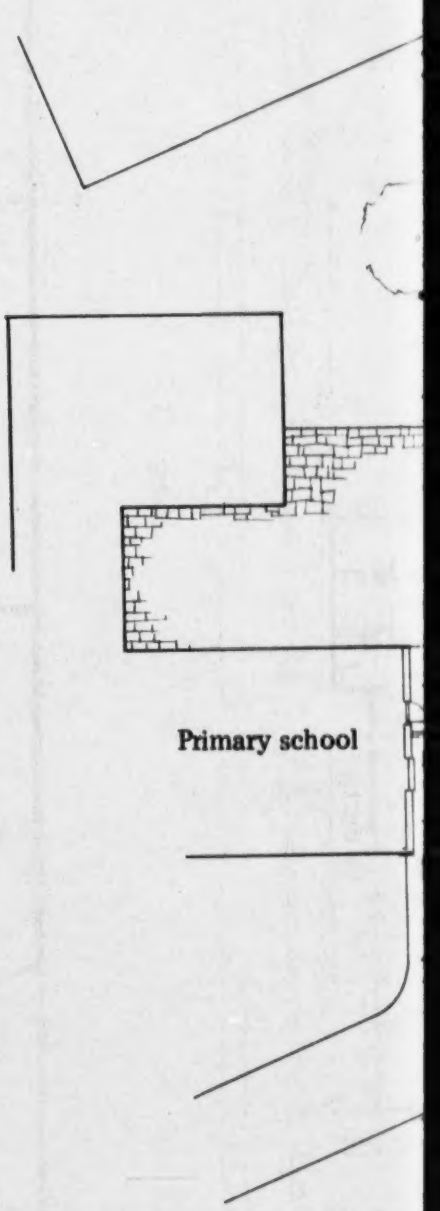
240

Lamplighter School,
Dallas, Texas
Architect: O'Neil Ford & Assocs.,
San Antonio

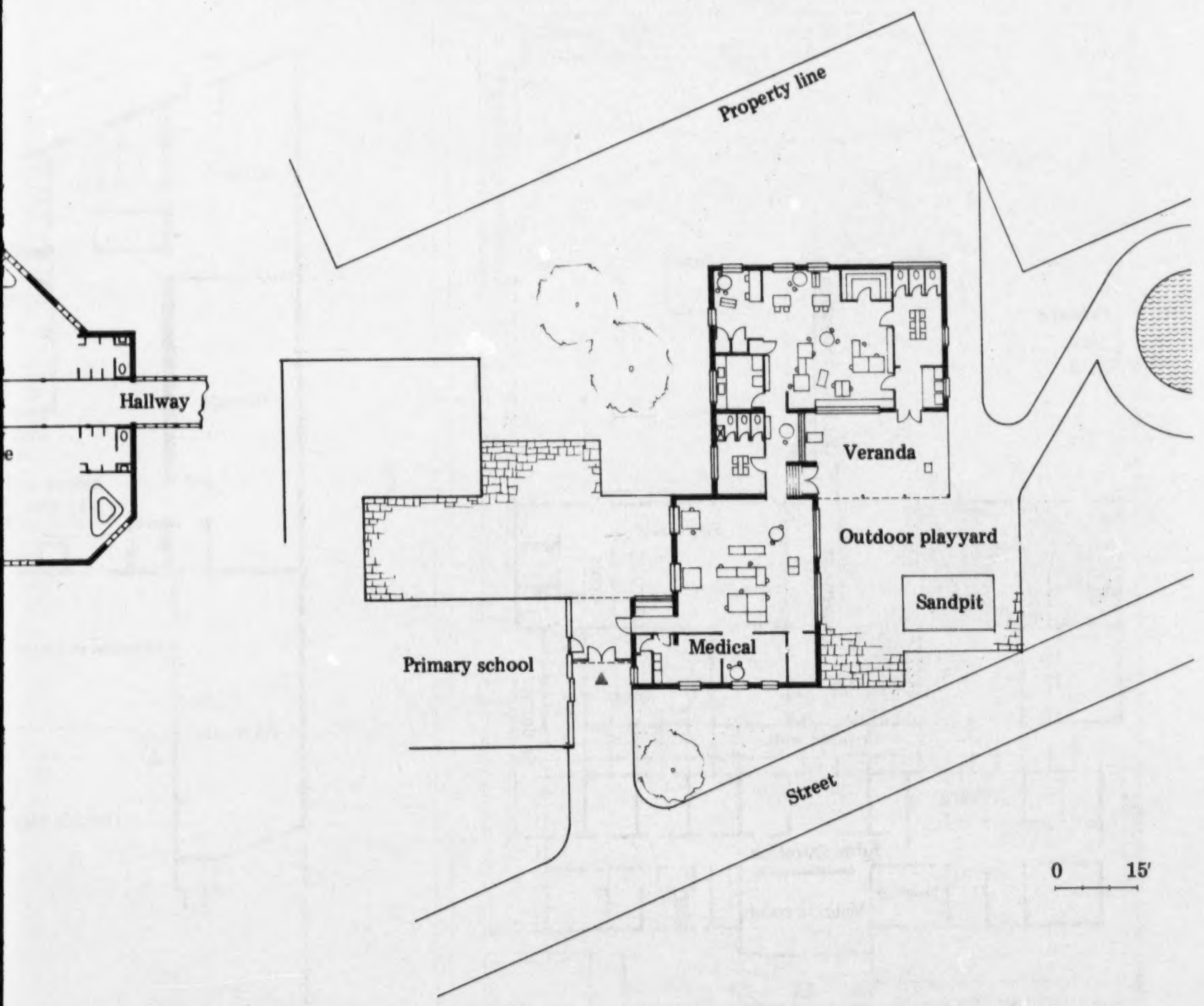
(Part plan)



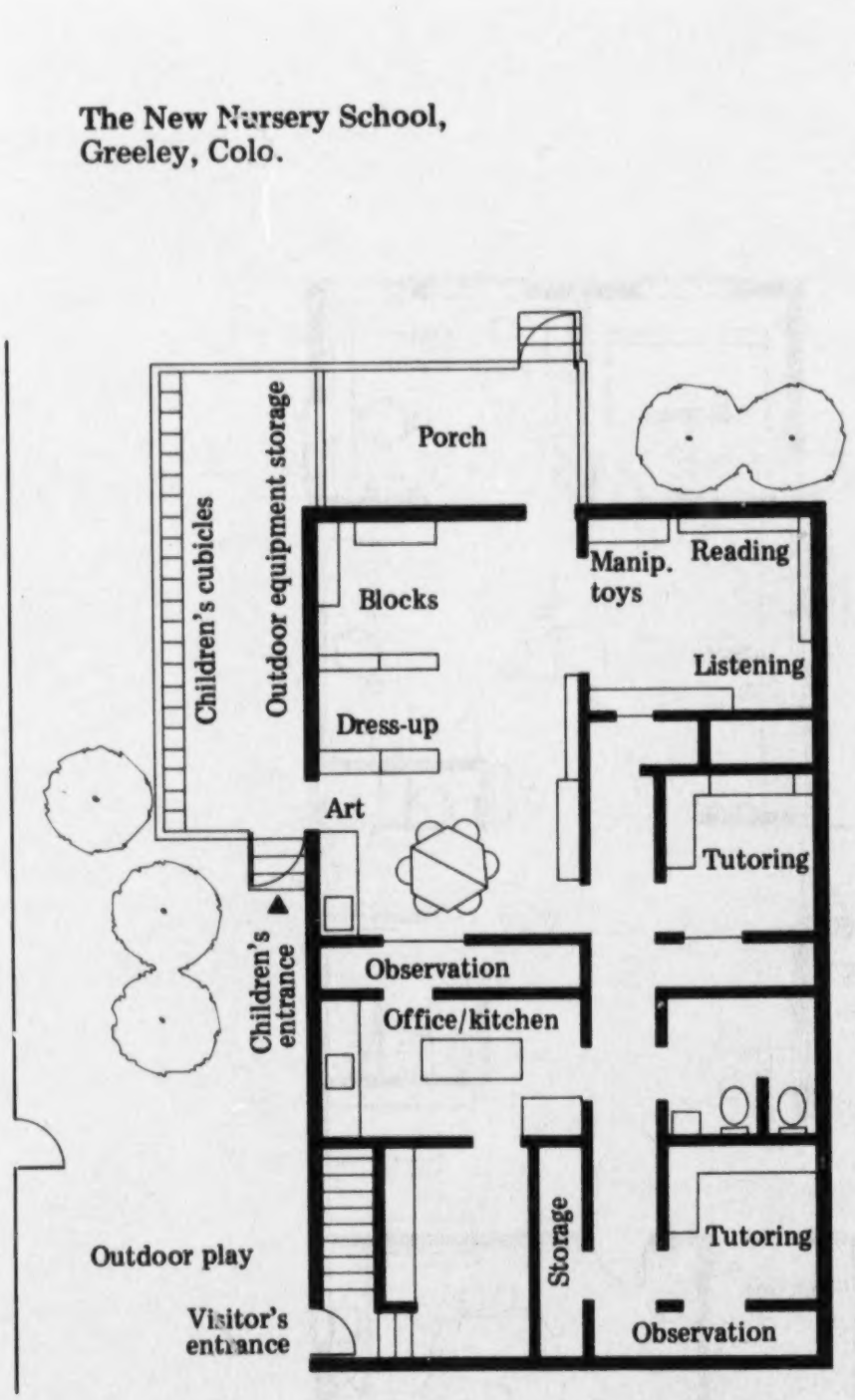
Eveline Lowe Primary School,
London, England
Architect: Development Grou
Dept. of Education & Science



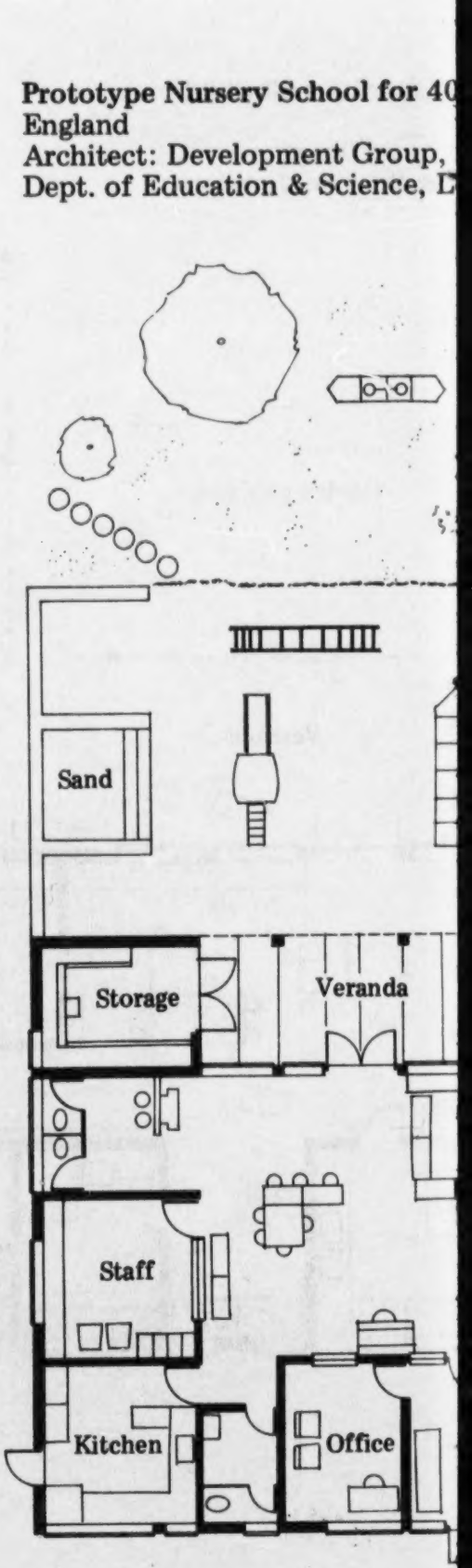
Eveline Lowe Primary School, Under Five Wing,
London, England
Architect: Development Group,
Dept. of Education & Science, London



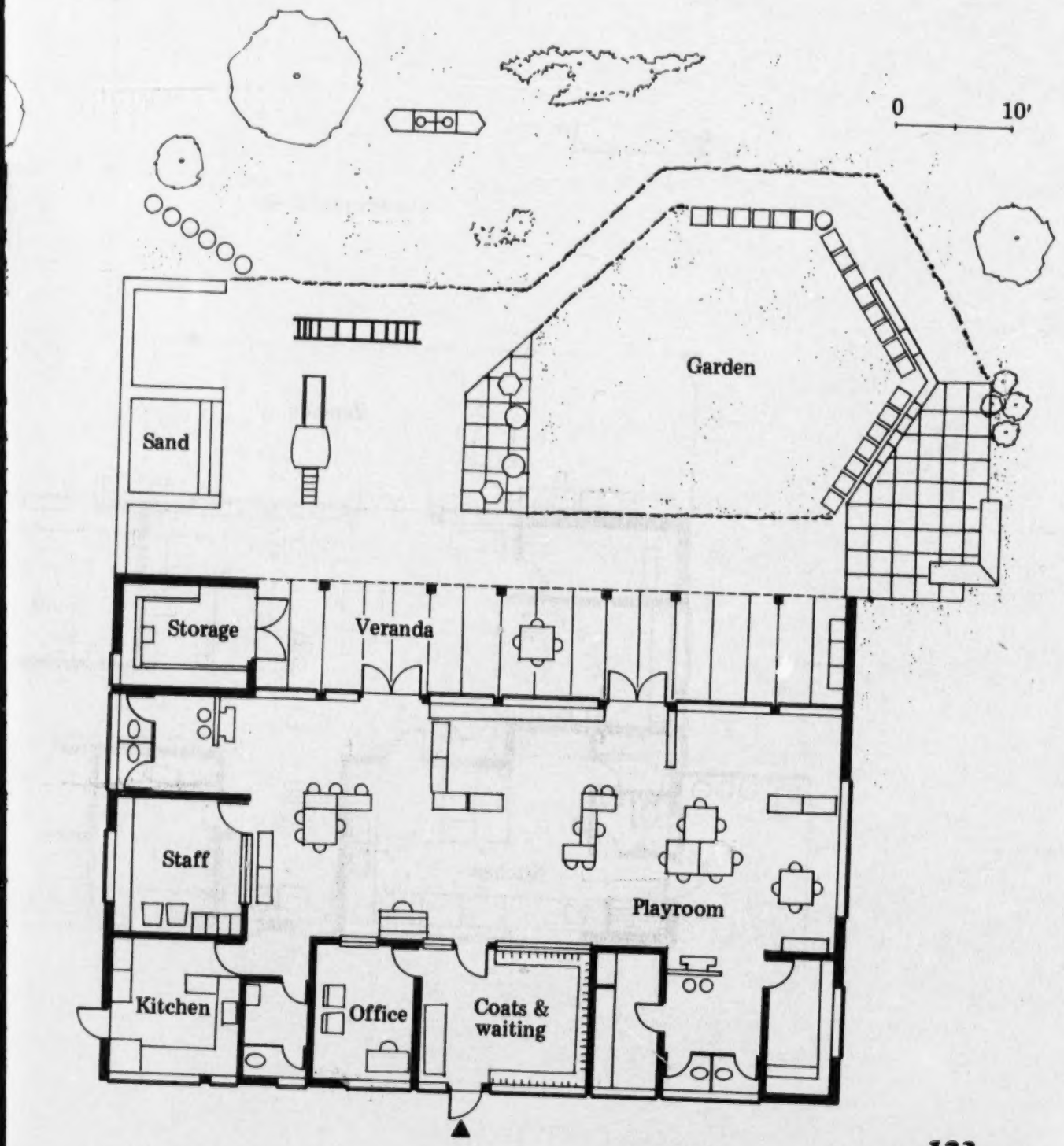
The New Nursery School,
Greeley, Colo.



Prototype Nursery School for 40
England
Architect: Development Group,
Dept. of Education & Science, L



Prototype Nursery School for 40 Children,
England
Architect: Development Group,
Dept. of Education & Science, London



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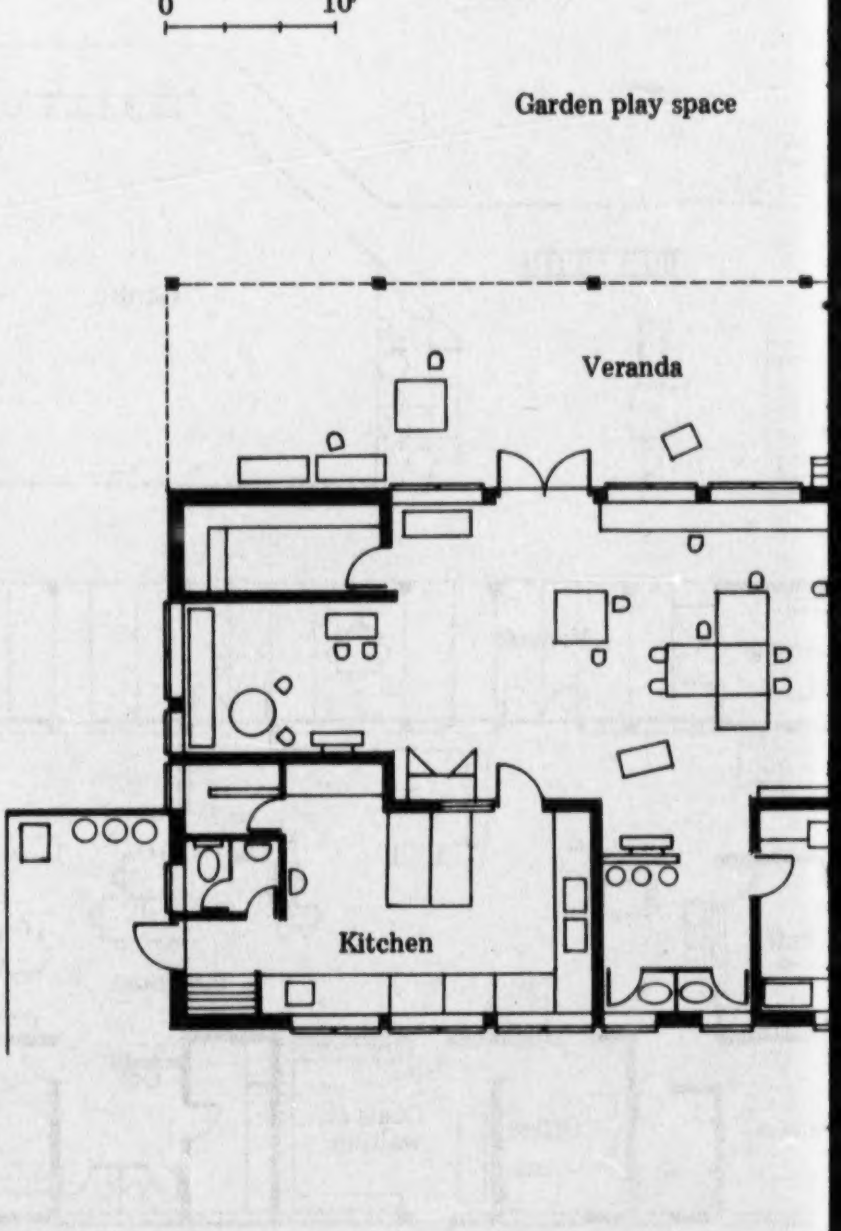
Prototype Nursery School for 60 Children, England
Architect: Development Group, Dept. of Education & Science, London



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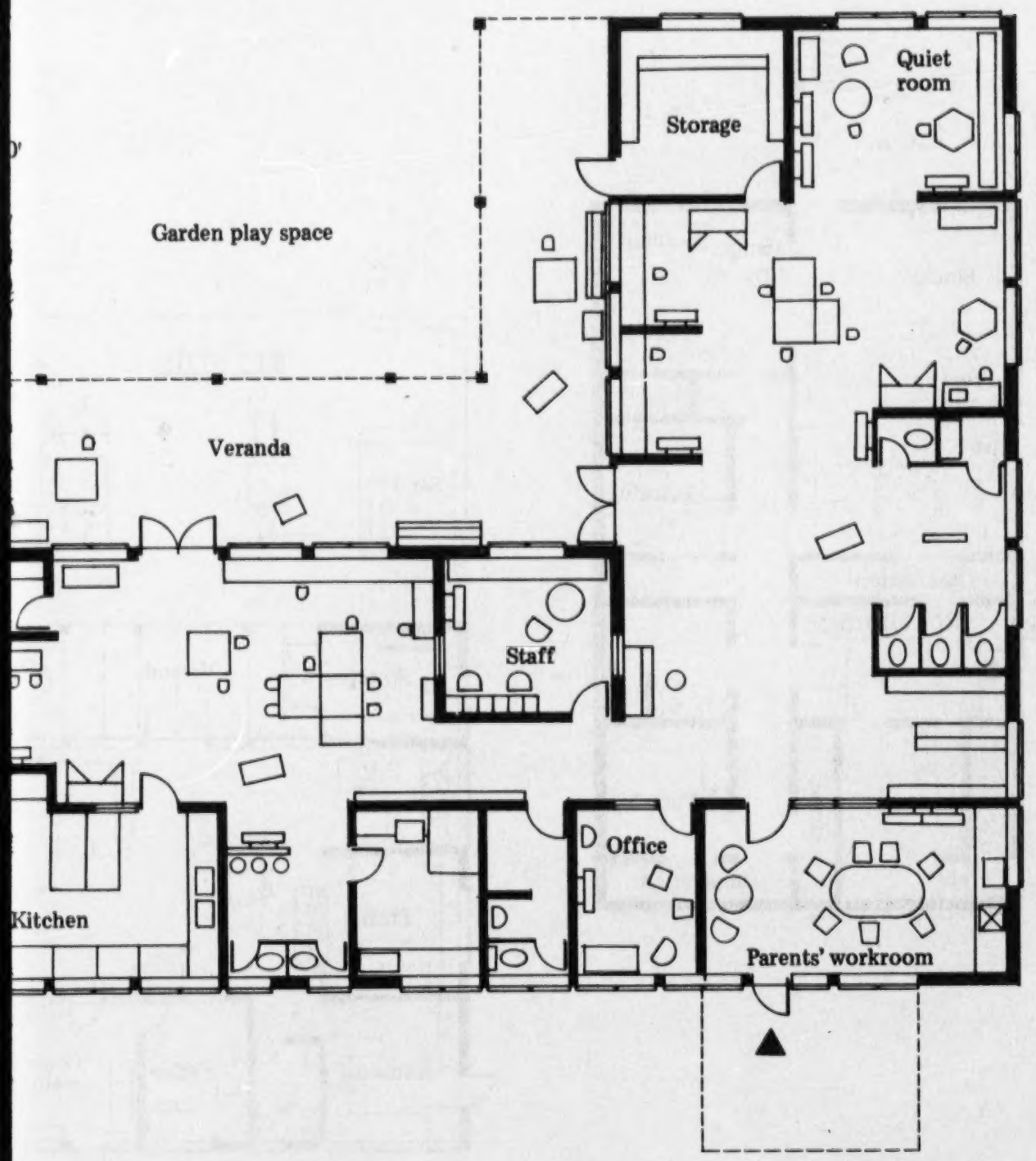
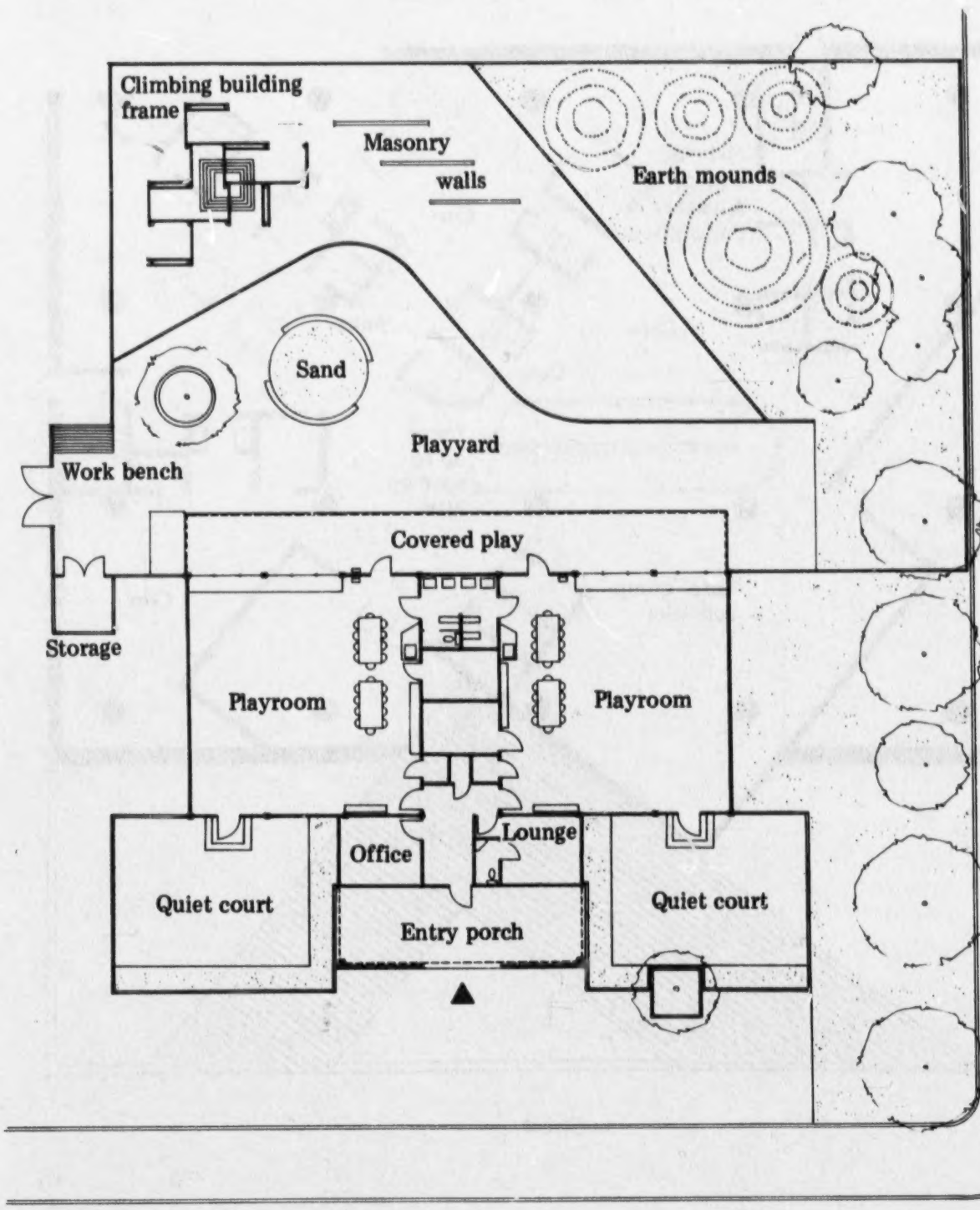
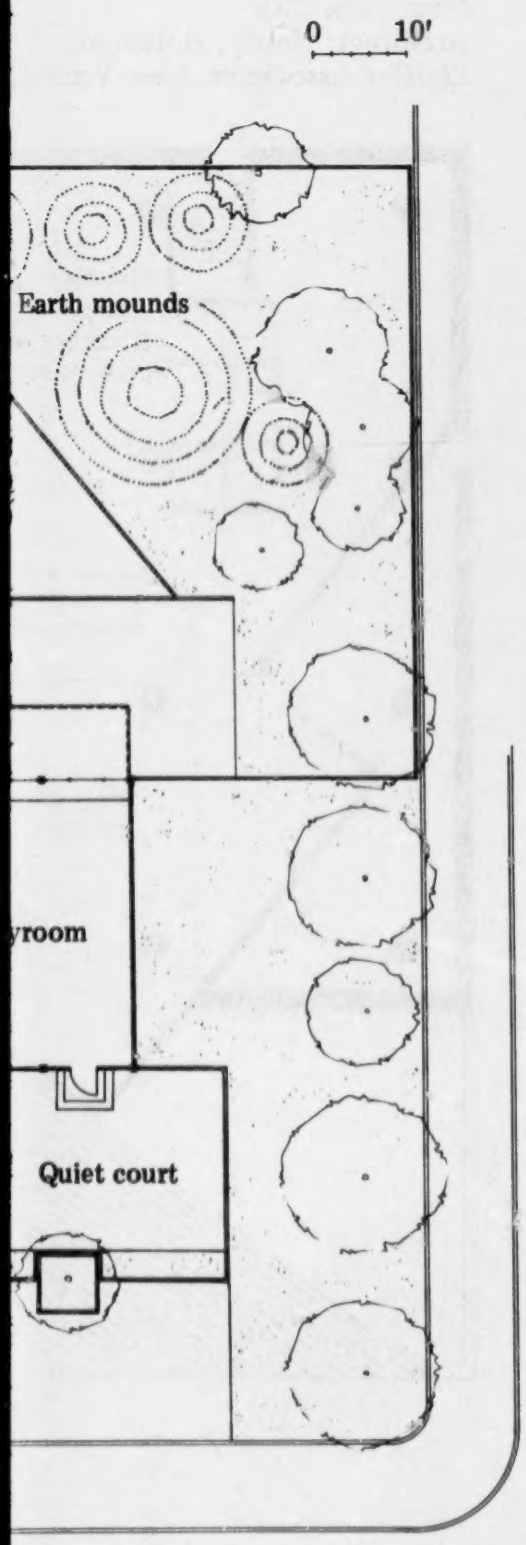
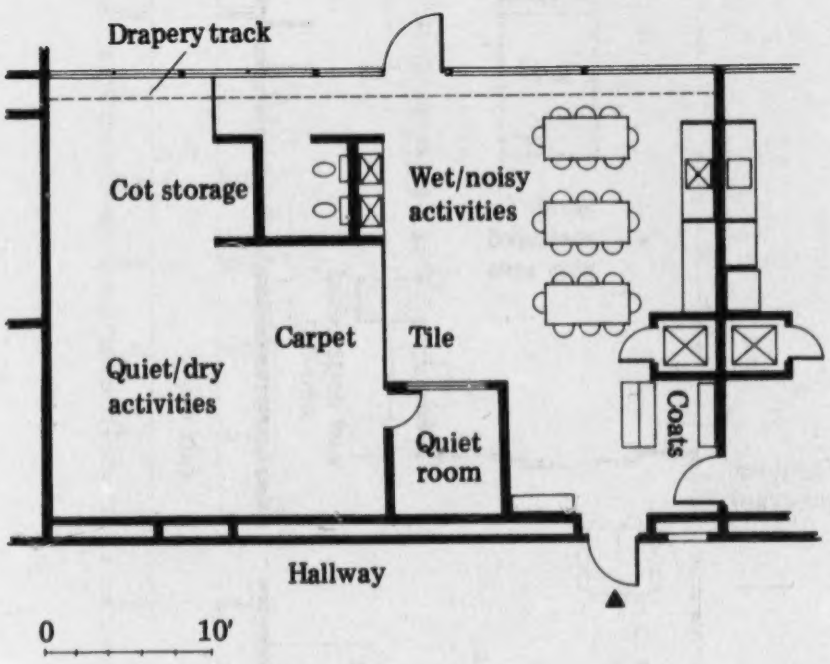


Ravenswood Children's Center, Bellehaven Annex,
E. Palo Alto, Calif.
Architect: Fred Linn Osmon, Oakland

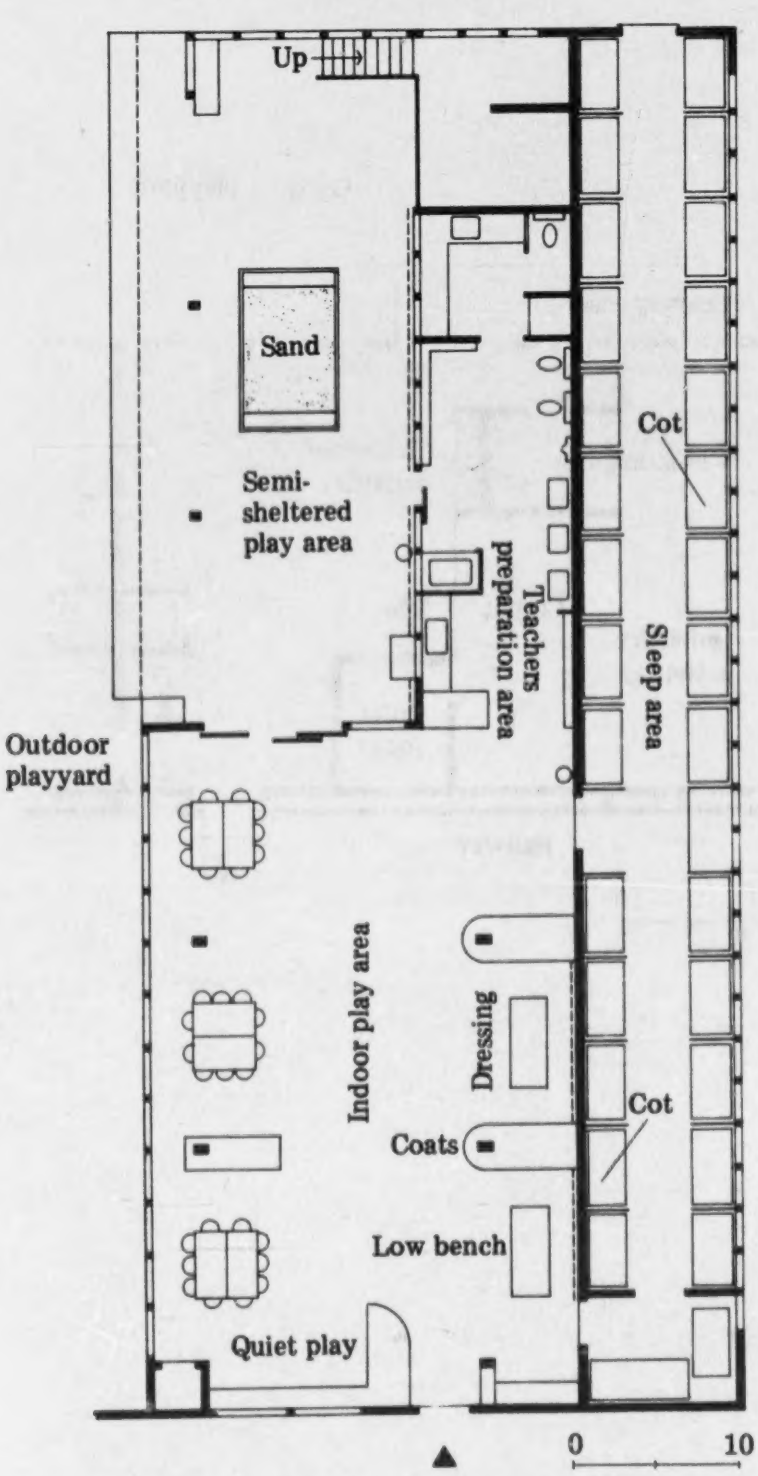


Ravenswood Children's Center, Central Facility,
E. Palo Alto, Calif.
Architect: Fred Linn Osmon, Oakland





Unit Plan for Nursery Schools
Designers: Catherine Landreth and Howard Moise



West Side Mont
New York City
Architect: Hard
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Howard Moise

West Side Montessori School,
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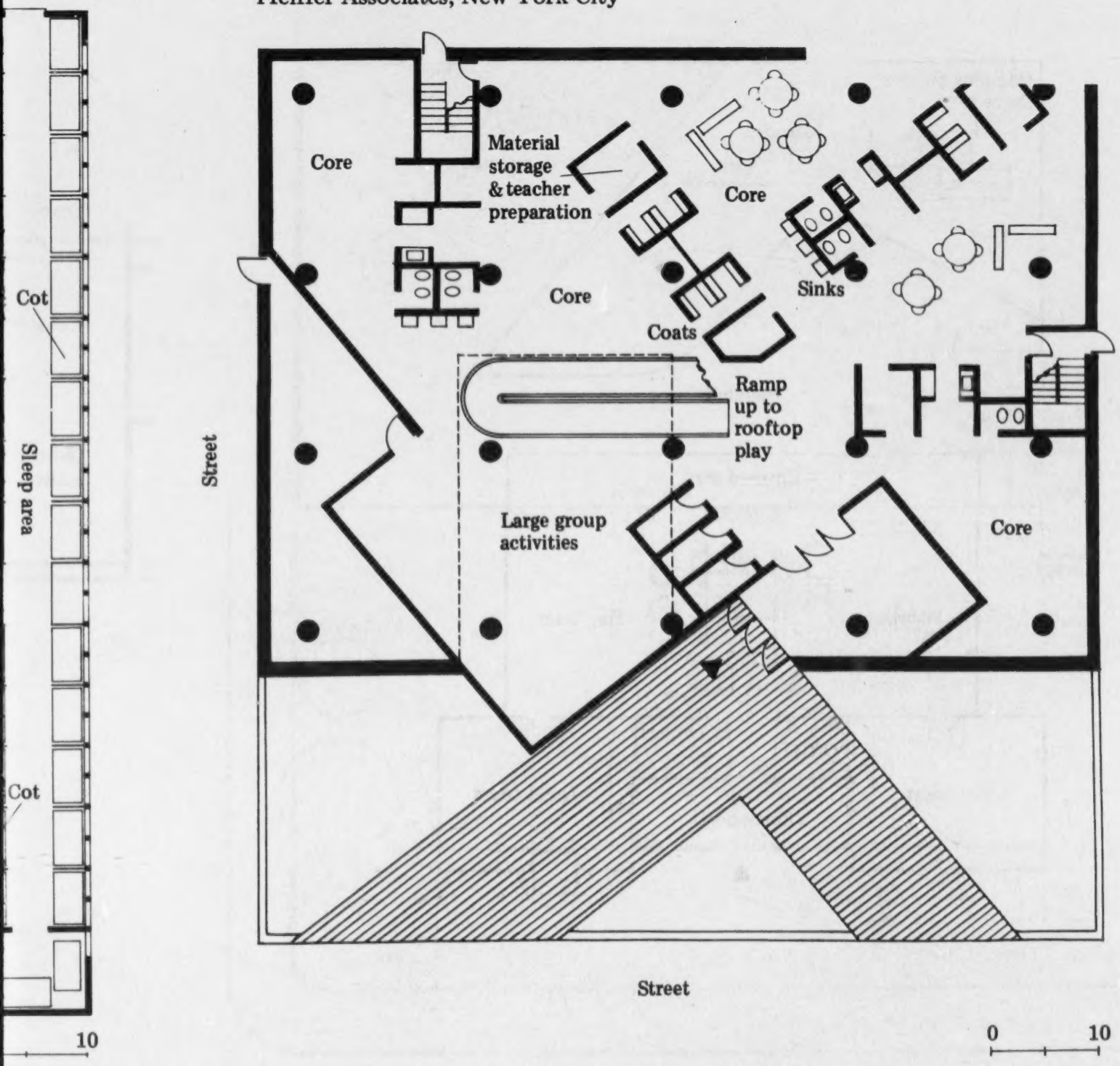
Architect: Hardy, Holzman,
Pfeiffer Associates, New York City



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